PHY 141 Sect. A PHYSICS IN SPORTS (3 hours) - Spring 2001

Class: 2-3:15 Tu Th Room 46 Culler Hall

Objectives: As a Miami Plan Foundation Course, Physics in Sports is designed to promote critical thinking, understanding contexts, engaging with other learners, and reflecting and acting. To that end, the goals of the course are. (1) that you develop an understanding of basic physics principles, especially as they apply to sports which will develop into a lifelong learning activity; (2) that you learn to think critically using verbal, written and mathematical reasoning (background in algebra and trigonometry is expected).

Text: **Dynamics of Sports, 4th Ed.** David F. Griffing DaLoG Company

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Office Hours: 11-12 TuTh 12:15-2pm

Exams: Examinations will be comprised of typically 25 multiple-choice questions. The questions will be drawn from the homework, class examples and lecture demonstrations and discussions. Answers will be posted following each exam to provide immediate feedback on your performance. You are allowed only a number two pencil and a calculator (not to be shared) during the exam. Absences will be excused only by prior arrangement with the instructor or by written medical excuse.

Homework: Homework assignments are indicated in the syllabus. Homework teams will be formed, but assignments will not be graded. Individual understanding of the homework is essential, as these questions form the foundation for the exams.

Clipping Assignments: These are team assignments. A sports photo or article from a newspaper or magazine is to be turned in by your team on the dates specified in the syllabus. The photo or article must be accompanied by an analysis that explains why the item is interesting in the context of the course. The analysis should be carefully thought out and well written, include the source and date (and author for an article), and be on an 8 1/2 x 11 sheet of paper. Factors in evaluating the paper will be the physics – sports connection, how well the paper illustrates the connection and how well the physics is explained. The assignment will be collected at the beginning of the period and no late assignments will be accepted.

Final Project: This is a team assignment of which there are two categories (each team chooses one). Evaluation criteria will be similar to that used for the Clipping assignments.

1. In-class presentation. Up to twenty teams may choose to make a 10-15 minute presentation of a sports related phenomenon. All members must participate in the presentation.
2. Written report of a sports related activity performed by the team or member of the team. This will be an embellished, personal version of a Clipping assignment.

Assessment: Grades are determined from the total points accumulated on the two exams and the final exam (100pts each), the Clippings (15 points each) and the Oral Assignment (50 points). Letter grades will be based upon a curve, but grades of A, B, C and D are guaranteed for scores above 90, 80, 70 and 60% respectively.

Class participation is encouraged and will be a consideration in determining the final grade in borderline cases. Attendance will be taken on a spot basis and will also figure into your grade on borderline cases.

TENTATIVE SCHEDULE (Test dates are fixed, rate of coverage may vary.) Pertinent chapters are indicated below.

	Week Beginning	Topics	Griffing 4th Chapters
1	Jan-8	Units and Standards; Linear Motion	1, 2
2	Jan-15	Linear Motion; Linear Acceleration	2, 3
3	Jan-22	Unif. Accel. Motion; Projectile Motion	4, 5
4	Jan-29	Circular Motion	6
5	Feb-5	Proj. Mot. Applications	7
6	Feb-12	Equilibrium; **Exam 1 - Thur., Feb. 15 (100 Laws Hall)**	8
7	Feb-19	Torque; Stability of Eqlb.	9,10
8	Feb-26	Stability; Reaction Time	10, 11
9	Mar-5	Forces and Motion	12
10	Mar-12	Spring Break	
11	Mar-19	Centripetal Force	13
12	Mar-26	Linear Momentum	16
13	Apr-2	Cons. Of Linear Momemtum; **Exam 2 , Thur., Apr. 5 (100 Laws Hall)**	17
14	Apr-9	Work and Power	20
15	Apr-16	Group Presentations	
16	Apr-23	Group Presentations	
17	Apr-30	**Final Exam, Fri., Dec. 4, 9:45am**	

Homework Assignments:
Ch. 1: 2, 4, 5, 12, 15, 16
Ch. 2: 1, 3a, 6, 7, 9, 14, 15, 16
Ch. 3: 1, 4, 6, 8, 11, 13, 14, 18, 19, 20
Ch. 4: 2, 3, 10, 16, 19, 22, 25, 27
Ch. 5: 2, 3, 6, 9, 11, 15, 17, 20
Ch. 6: 1, 3, 5, 7, 9, 11
Ch. 7: 2, 4, 9, 13, 15, 20, 24, 28
Ch. 8: 2, 4, 8, 11, 15, 16
Ch. 9: 3, 6, 14, 17, 18, 19, 22, 23
Ch. 10: 2, 5, 8, 12, 15, 18
Ch. 11: 3, 6, 7, 9
Ch. 12: 3, 5, 9, 11, 15, 21, 24
Ch. 13: 1, 3, 4, 6, 7, 9
Ch. 16: 2, 4, 5, 8, 10, 13, 18, 19
Ch. 17: 1,5, 8, 10, 14, 16, 20, 23
Ch. 20: 1, 6, 8, 12, 13, 14

Clipping Assignments (due on Tuesdays):
C1: Jan. 30
C2: Feb. 20
C3: Mar. 6
C4: Mar. 27
C5: Apr. 10