



IDH3034: The Tao of Sports Fall 2018 Course Syllabus



Class room PC 425

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A. Course Description

In this course “The Tao of Sports”, we will try to make sense of why sports are such a unique and popular human experience. We will study both the physical sciences that govern them and balance that with the social component and even religious experiences felt by athletes/sports fans. In terms of physical science, we will look at estimating the position, speeds, acceleration, forces, energy and other quantifiable measurements associated with such popular sports as soccer, basketball, football, baseball, as well as some of the less popular sports (i.e. car racing, diving, figure skating, and others). Part of this component of the course will be the ability to predict outcomes as a result of looking and estimating the variables we can measure/observe. We will also evaluate some biological sciences with respect to energy from nutrition, concussions in sports, and the impact of performance enhancing drugs. In balance with the physical sciences will be an investigation of social science in sports, covering everything from gender, age, race, finances, deviance and violence in sports. Students will not only be able to develop a greater understanding of the science of sports and its impact in human history, but perhaps see how they can find careers in the sports industry in ways that may be possible to anticipate based on the current status of sports science.

The format of the class sessions is going to be a mix of lecture, student centered problem solving, discussions, watching videos, and student led presentations. Students will be often be required to watch videos/read textbook before coming to class. It will also be **Mandatory** to attend 2 sporting events during each semester for assignment purposes (explained more in detail in the section on assignments). The examinations and assignments will cover the material that is discussed in the classroom so participation in the course is so critical for both your participation grade and your ability to learn and perform well on exams.

B. Pre-requisites

Pre-requisite: IDH1001/1002

C. Learning Outcomes

With respect to the *physical sciences* content in this course, it will be expected that students will be able to:

- Quantify distances, speeds, forces, energies and a variety of other quantifiable analytics of sporting events
- Use the “center of mass” concept to describe the motion and trajectory of sporting objects (i.e. balls and athletes)
- Define hang time and vertical leap using mathematics
- Make estimations of what might happen in a sporting event based on video analysis

- Understand the concept of collisions in sports and how they work
- Quantify the energy consumed in food and expended in sport, and try to evaluate the energy input/output relationship
- Develop an appreciation for the variety of physical principles underlying the sports we watch and play
- Attend sporting events and try to understand the performance of athletes as a function of the physical sciences underlying the sport

With respect to the *physical sciences* content in this course, it will be expected that students will be able to:

- evaluate the concept of sports as *sites* for socialization
- analyze the importance of youth sports in terms of social structure and parenting
- investigate the gender inequality found historically in sports
- evaluate the concept of sports as building character and the risk of deviant overconformity
- analyze the prevalence of violence in sports
- look at how race relations have changed through sports
- understand the economics associated with sports, especially when it comes to the building of mega million dollar sports stadiums and how this affects local communities
- argue the idea of sports as a religion, as well as to see how religions have impacted sports over the course of history
- understand such economic principles as opportunity costs, market demands, game theory, supply and demand through fantasy football

The course has quite a few outcomes in mind and given that the course is a 2 semester course, some of the learning outcomes will carry through to the Spring.

D. Text/supplies

Required:

1. *Tao of Sports Textbook* and access to Connect online course (ISBN 9781307299960) – Can be found in bookstore (\$125)
2. Access to Canvas page for access to videos/extra readings

E. Grading Scheme

Students will be graded with the following percentages:

1. Homework	20%				
2. Quizzes	20%				
3. Infographic		10%			
4. Sporting event papers			30%		
5. Fantasy Football Activity				10%	
6. Class Participation					10%
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Total	20%	+ 20%	+ 10%	+ 30%	+ 10% + 10% = 100%

Homework (20%)

There will be homework assignments up on our online homework system from McGraw Hill (Connect). HW questions will be associated with the readings we will be doing. Due dates will be announced online and in class. Students will have unlimited attempts to get the questions correct. Some of the homework questions *may* be used as quiz questions.

Quizzes (20%)

You will be given 4 in-class quizzes (each worth 5% of your total grade). The tentative dates for the quizzes are listed in the calendar and will be verified at least one week in advance in class. The quizzes will consist of a variety of multiple choice, short answer, and essay questions. They will cover the material we discuss in class, the readings, any videos or assigned material.

Infographic (10%)

You will be assigned to a group of 3 and will be required to put together an infographic show the physical science underlying a sport of your choice. The idea is that your group will try to explain something that is not so simple to explain (i.e. the bend to a soccer kick, the difficulty of a half-court shot in basketball, explaining the movements on the half pipe in snowboarding). The utility of infographs in such areas as business, research, science is tantamount to a research paper in that area, if not even more valuable for its visual pleasure. You can find more valuable information on how to arrange the infographic (10 steps to designing one: <http://www.fastcodesign.com/1670019/10-steps-to-designing-an-amazing-infographic>). You will be graded on the infographics presentation, the information presented (accuracy and amount), and your use of sources. Also, while tempting to try and copy an existing infographic from the internet, note that plagiarism is an academic misconduct offense so *do not copy* something already done (you may get inspiration from something already done, but do not copy).

Sporting Event Papers (15%)

It is MANDATORY to attend 2 sporting events this semester and to report about the event. For each of the events you will be required to provide a selfie from the event along with a 1000 word paper that summarizes what occurred and answers the following questions/suggestions:

- What scientific principle did we recently learn about that you were able to see utilized in this sporting event.
- Make any estimations to quantify data from the event you attend.
- What social principles did we recently learn about that you were able to see at the event you attend.

Here are a list of events to consider attending. If you choose to attend an event not provided here, please verify with Dr. Lichter that the event qualifies.

- Any FIU sports event: <https://www.fiusports.com/index.aspx>
- Miami Dolphins games: <http://www.nfl.com/schedules/2018/REG/Dolphins>
- Miami Heat games: <https://www.nba.com/heat/schedule>
- Miami Marlins games: <https://www.mlb.com/marlins/schedule>
- Florida Panthers games: <https://www.nhl.com/panthers/schedule/>
- NASCAR championship weekend at homestead: <http://www.homesteadmiamispeedway.com/>
- Local marathons/triathlons/ultramarathons (Dr. Lichter will provide a list on canvas, highly suggested to consider the *Icarus ultramarathon* in Snyder Park in November)

Fantasy Football (10%)

Throughout the Fall semester we will be using fantasy football to study basic economics (covering such topics as opportunity cost, gains and advantages from trade, supply and demand shocks, consumer surplus, game theory, imperfectly competitive markets and more). Each student will be responsible for drafting a team and participating weekly. Grades will be based on participation and assignments associated with the league. The winner of each league will receive a bonus 5% towards the entire course grade!

Participation (10%)

A HUGE part of this class will be the in-class discussions and your feedback on the readings assigned. Your involvement in the class will be evaluated, so it will be advantageous to be in class every time and to be involved in class discussions or assignments. If you have a valid excuse for an absence (legal, medical, interviews, athletics), you will need to email me with subject "IDH3034 Excused Absence" and then in the message you must include any documentation. If you do not follow these instructions you will not be excused from that class.

F. Tentative Grading Scale

90-100 A
80-89 B
70-79 C
60-69 D
0-59 F

(+/- grades will be given at the junctions between letter grades)

G. Honor code/Conduct code

Please remember that as an FIU student you must abide by the provisions of the honor code (as described in the *FIU student handbook*), which prohibits any plagiarizing, copying work from classmates, or cheating on exams. If I suspect that you have acted against the honor code you will be dealt with accordingly. As well, you are also to remember that you must abide by the student conduct code (also in the *FIU student handbook*). Should you be unruly or disruptive I will not hesitate to ask you to leave the room and penalties against your grade can and will be assessed.

H. Disabilities

Students with disabilities who feel they may need accommodations in class should visit the Office of Disability Services (website: <http://drc.fiu.edu>) and ensure the appropriate accommodations. Please be certain to present Dr. Lichter with the documentation as soon as possible. As exam time draws near, it will be the responsibility of the student to arrange a time to take the exam at the DRC.

I. Tentative class calendar

Fall Semester

	Topic	Reading	Assignment/Event
Week 1: Aug 21st /23rd	Overview, Sports overview, Fantasy Football Introduction		
Week 2: Aug 28th/30th	Who plays Sports and Why, Basic Science concepts	Coakley, 3; Lisa, 1	Tuesday 8/28: Quiz 1
Week 3: Sep 4th/Sep 6th	Racing <i>Mathematically</i> : speed, velocity, acceleration, gravity, vertical leap, hang time	Lisa, 2	
Week 4: Sep 11th/Sep 13th	Forces in sports: weight, free body diagrams, newtons 2 nd and 3 rd laws of thermodynamics, Friction	Lisa, 3	
Week 5: Sep 18th/ Sep 20th	Forces in sports: two moving bodies, race cars, Projectile Motion	Lisa, 3 and 4	Thursday 9/20: Quiz 2
Week 6: Sep 25th/Sep 27th	Continue Projectile Motion	Lisa, 4	Tues 9/25: Sporting Event paper 1
Week 7: Oct 2nd / Oct 4th	Children in Sports: the culture, the upward mobility, and the impact	Coakley, 4	
Week 8: Oct 9th/Oct 11th	Deviance in Sports: the idea of deviant overconformity, the widespread acceptance of sports myths ("sports build character") and its consequence	Coakley, 5	
Week 9: Oct 16th/Oct 18th	Violence in Sports: boxing, MMA, concussions, target violence against sporting events (i.e. boston marathon bombing, 1972 munich Olympics)	Coakley, 6	Tuesday 10/16: Quiz 3
Week 10: Oct 23rd/Oct 25th	Gender and Sports: <i>Orthodox gender ideology</i> and the way sports perpetuates it, progress towards equity, case studies	Coakley, 7	
Week 11: Oct 30th /Nov 1st	Religion in Sports: is sports a religion, how have religions impacted athletes	Coakley, 15	
Week 12: Nov 6th/Nov 8th	Ultra sports: finding limits, spirituality in sports, defying concepts of energy		Thursday 11/8: Quiz 4
Week 13: Nov 13th /Nov 15th	Ultra sports continued, In class time to work on infographics		
Week 14: Nov 20th/Nov 22nd	Infographic presentations		Tuesday 11/20: Infographics
Week 15: Nov 27th /Nov 29th	Semester wrap up and look ahead to Spring		Tuesday 11/27: Sporting Event paper 2