
ENVIRONMENTAL SUSTAINABILITY IN SPORT

Sylvia Trendafilova and Jeffrey Graham, University of Tennessee

INTRODUCTION

Since the mid-1980s sport has been the subject of significant investigation for its relationship with the natural environment, and especially its negative impact on the surrounding environment. The relationship between sport and the environment is bidirectional. In other words, sport impacts the natural environment and is impacted by the natural environment. Tied to the understanding of the natural environment is the concept of environmental sustainability and discussing this relationship is a necessary next step in understanding its relationship with sport. Given the scale and urgency of environmental issues across the globe and the array of associated research, it is easy to understand why such environmental problems and their primarily human causation also have important implications for sport, sport organizations, and the managers who lead them. Indeed, the importance of the relationship between the natural environment and sport organizations is increasingly recognized by both government sport agencies, and non-government organizations alike (e.g., the International Olympic Committee, Green Sports Alliance, and the Natural Resource Defense Council).

Furthermore, the importance of specifically addressing the natural environment in the sport sector has led to the development of a new sub-discipline in the field of sport management: sport ecology. Sport ecology is the study of sport, the natural environment, and the relationship between the two. The selection of this term over alternatives, such as sport sustainability in general, is intentional and strategic. Sport ecology is deemed more appropriate than sport sustainability or even green sport as an overarching term for this academic sub-discipline, though the latter two are common parlance among industry professionals. Studies have used the term sport sustainability or simply sustainability to denote research on sport and the natural environment (e.g., Bodie & Jackson, 2017; Fyall & Jago, 2009). However, the term sustainability has far broader applications than the natural environment or natural resources: it can refer to cultural, social, or economic sustainability (Littig & Griessler, 2005). As such, using the term sport sustainability may blur the focus on the natural environment and may broach other existing and worthwhile sub-disciplines, such as sport for development and sport sociology. In the field of sport management, sustainability in general has been applied to explain long-term economic prosperity (Fort, 2010; Lindsey, 2008), social welfare (Smith, 2009; Taks, 2013), environmental well-being (Fyall & Jago, 2010; Paquette et al., 2011), and organizational longevity (Svensson, 2017). However, the academic literature on sport ecology has centered on either the environmental impact of sport or the environmental impact on sport (Orr & Inoue, 2019). On the topic of sport’s environmental impact, researchers have focused mainly on measuring environmental impact, reducing the impact of sporting events and infrastructure on the natural environment, or campaigning to use sport to catalyze positive environmental change by increasing knowledge and promoting behavior change among fans.

It is important to note that the course presented in this syllabus is specifically focused on the environmental aspect of sustainability. The most commonly applied definition of sustainability in general

is inked in "Our Common Future," a report of the World Commission on Environment and Development, which defines sustainable development as development that "meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development, 1987). Over time, sustainability has permeated nearly every academic domain, industry, and policy context. For example, Parkin (2000) estimates that there are over 200 definitions of sustainability. Regardless of the large number of definitions, sustainability is based on three dimensions: (1) the natural environment, (2) the economy, and (3) social relationships. Also known as the 'three pillars' of sustainability (Wilkinson & Yencken, 2000), these dimensions have been "characterized by business as the 'triple bottom line.'"

Sport organizations are paying considerable attention to environmental sustainability as part of their response to industry trends and policies of making the sport sector more sustainable (Trendafilova, Babiak, & Heinze, 2013). Therefore, sport management higher education, being a key stakeholder of the sport sector, which prepares upcoming specialists to develop sport in a sustainable manner, has recognized the need to include environmental sustainability in curricula (Pfahl, 2015). This can enable future professionals to develop skills, critical thinking abilities, awareness of the issues, and be equipped with the tools necessary to manage the potentially negative environmental impacts of sport. Very few kinesiology departments and sport management programs in the United States offer a stand-alone course dedicated to environmental sustainability in sport (Graham, Trendafilova, & Ziakas, 2018). This is partially because only a handful of faculty are trained in the area and have the expertise to teach such a course. The significance of having this class is based on its multidisciplinary approach and call to address environmental sustainability within the sport industry and better prepare students for a career in the field (Graham et al., 2018). With sport management higher education recognizing the need to include environmental sustainability in curricula, we hope that this paper and syllabus can assist other faculty interested in teaching a similar class or even incorporating a module within relevant sport management courses.

"Environmental Sustainability in Sport" is a graduate-level course offered at the University of Tennessee in the Kinesiology, Recreation & Sport Studies department, which currently has over 700 undergraduate students and 150 graduate students, including approximately 20 doctoral students. The course was designed with the collaboration of two faculty members, Dr. Sylvia Trendafilova and Dr. Jeff Graham, both having an expertise on the topic. Dr. Trendafilova currently teaches the class. The students who take the class are all graduate students (masters and doctoral) and come from a diversity of backgrounds, with some being in the sport management concentration and others in the therapeutic recreation concentration. Such a diverse class make-up allows for interesting and engaging class discussions and different viewpoints on sport and the natural environment. That being said, it is completely possible that the course could be adapted and used at the undergraduate level as well.

The syllabus provided on the following pages is designed to ensure students receive both theoretical and practical knowledge. The format of the class encourages students to share their own environmental beliefs, values, and experiences as they relate to the content and assigned readings. The course is elective for the graduate degree programs in the Kinesiology, Recreation, and Sport Studies department where it is taught. Overall, the goal of the course is to help students develop a fundamental understanding of environmental sustainability in the sport industry and ways sport managers can operate within the sport industry in an environmentally sustainable way.

SYLLABUS: ENVIRONMENTAL SUSTAINABILITY IN SPORT

COURSE DESCRIPTION

The course title is "Environmental Sustainability in Sport". Traditionally the class meets twice a week for 75 minutes each time in a face-to-face format. The course provides a holistic examination of the relationships between sport organization operations and the natural environment. Sport, in its participative and experiential forms, works with and within the natural environment. The physical environmental footprint made by sport-related activities demands attention as with any other form of human activity. The social and cultural position of sport makes it an important example of natural environment responsibilities. Sport is a platform for bringing education and behavioral change to those who participate in as well as those who support it. Sport managers can play a critical role in making this education and behavior change happen for participants and supporters, and this course helps future sport managers examine best practices and trends in the industry, especially those revolving around the natural environment and the sport industry's negative impact on the environment.

TEACHING METHODOLOGY

This class utilizes a series of theoretical and applied modules, analyzing and evaluating the ways in which sport personnel of all types are bringing environmental issues into their events, organizations, and facilities. The teaching methodology incorporates traditional lectures, class and group discussions, case studies, student presentations, guest lectures of experts around the world, field work, and contextualized application exercises. This type of teaching prepares students to develop the skills to articulate key issues facing sport organization strategy related to the natural environment and a personal perspective of the relationship between sport and the natural environment.

REQUIRED TEXT

Casper, J. M., & Pfahl, M. E. (Eds.). (2015). *Sport management and the natural environment: Theory and practice*. Routledge.

SUGGESTED READINGS

Casper, J. M., McCullough, B. P., & Pfahl, M. E. (2020). Examining environmental fan engagement initiatives through values and norms with intercollegiate sport fans. *Sport Management Review*, 23(2), 348-360.

Dingle, G. W., & Mallen, C. (2018). Sport-environmental sustainability (Sport-ES) education. *Routledge Handbook of Sport and the Environment*, 79-96.

Graham, J., Trendafilova, S., & Ziakas, V. (2018). Environmental sustainability and sport management education: Bridging the gaps. *Managing Sport and Leisure*, 23(4-6), 422-433.

Mallen, C., & Chard, C. (2012). "What could be" in Canadian sport facility environmental sustainability. *Sport Management Review*, 15(2), 230-243.

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- Ross, W. J., & Leopkey, B. (2017). The adoption and evolution of environmental practices in the Olympic Games. *Managing Sport and Leisure*, 22(1), 1-18.
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- Trendafilova, S., Graham, J., & Bemiller, J. (2017). Sustainability and the Olympics: the case of the 2016 Rio summer games. *Journal of Sustainability Education*, 16.
- Trendafilova, S. A., & Waller, S. N. (2011). Assessing the Ecological Impact Due to Disc Golf. *International Journal of Sport Management, Recreation & Tourism*, 8.

ONLINE LEARNING PLATFORM: CANVAS

Assignments, readings, videos, cases, and other course material will be posted on the course website, which is currently Canvas. Grades will also be accessible from this site. In addition, course communication will be distributed via e-mail using the Canvas site, as well as posting to the Announcements pages. Students are responsible for ensuring their personal site settings allow them to receive course alerts and notifications when announcements, emails, or other course communication takes place.

COURSE OBJECTIVES

At the conclusion of the semester, students should be able to:

- Identify foundational natural environment issues.
- Explore the relationship between sport and issues related to the natural environment.
- Link natural environment issues to strategic planning steps.
- Apply analytical processes to situations involving sport and the natural environment.
- Analyze the varying perspectives of natural environment issues, solutions, causes, and effects.
- Examine the operational aspects of sport organizations and their impact on the natural environment.
- Reflect upon personal perspectives related to natural environment issues in sport.

LEARNING OUTCOMES

At the conclusion of the semester, students should be able to:

- Articulate key issues facing sport organizations related to the natural environment.
- Demonstrate mastery of key terminology related to the natural environment.
- Elaborate on the linkages between each facet of a sport organization's operations and how they are related to the natural environment.
- Demonstrate critical analysis of situations related to the natural environment and sport organization operations.
- Critically analyze issues surrounding sport as it relates to the natural environment.
- Create and propose viable strategies to solve environmental issues facing a sport organization.
- Articulate a personal perspective of the relationship between sport and the natural environment.

ASSIGNMENTS AND EVALUATION

Additional descriptions of each assignment are provided later in the syllabus. This summary table is intended for quick reference.

Assignments	Points
Reflection paper – my view and career view	20
Reflection paper – athletics view	20
Team case study analysis	20
Field work	10
Sustainability in sport	20
Classroom discussion	10
Personal sustainability goal	0

COURSE GRADE DETERMINATION

Grade	Point Percent
A	93 – 100%
A-	90 – 92%
B+	87 – 89%
B	83 – 86%
B-	80 – 82%
C+	77-79%
C	73-76%
C-	70-72%
D+	67-69%
D	63-66%
D-	60-62%
F	0-59%

ASSIGNMENTS

REFLECTION PAPER ASSIGNMENT - MY VIEW AND MY CAREER VIEW

In this reflection paper, please attend an athletics event at your university. You can attend more than one, but at least one is needed. Attend as a sport professional rather than a fan as you normally would. While in attendance, please use a critical eye and observe what you see at the event in relation to the following items:

- Sustainability efforts and game day operations
- Sustainability efforts and marketing
- Sustainability efforts and sponsorship
- Sustainability efforts and fan behavior

Your reflection paper will report your findings about what you saw, especially taking notice of things that stood out to you or surprised you. The analysis should also raise questions about why the situation is the way you saw it to be. In addition, please provide some ideas for how solutions might be found to any problems or challenges with sustainability you see at the event.

TEAM CASE STUDY ANALYSIS ASSIGNMENT

With the group you were assigned to work with, go to the Natural Resources Defense Council (link to site: <https://www.nrdc.org/resources/collegiate-game-changers-how-campus-sport-going-green>). At the site they have several case studies listed from the world of intercollegiate sport. Your assignment is to work as a group to select 2 cases from the list for this project. The work you will do centers on a comparative analysis of the cases.

CASE COMPONENTS

1. Read each case in its entirety.
2. Identify the similarities and differences between the goals of each case.
3. Identify the similarities and differences between the tactics chosen in each case.
4. Identify the similarities and differences between the measures used to determine success for each tactic and the overall strategy.
5. Identify the competitive advantages used by each, some, or all of the institutions (this can be sentence bullet points).
6. Note: For numbers 2, 3, and 4, please do not review or summarize each case, but rather, focus on the similarities and differences between them (i.e., key points).
7. After 2, 3, 4, and 5 are complete, please offer your analysis as to whether or not a similar strategy can be implemented at your university. In other words, following your own analytical points, what is the probability that such measures can be undertaken at your university? Why is this so?
8. You will then prepare a presentation that includes the following items:
 - a. Proper informative/persuasive presentation format
 - b. Headings and sub-headings within sections as needed
 - c. Clear analysis of the materials through the instructions above
 - d. Avoid presenting a simple summary of each case, analysis and details of your critical thinking will be important
 - e. The presentation should be approximately 30-minutes in length
 - f. Sample presentations from past semesters will be provided as needed

Each team member must make a substantive contribution to the preparation and delivery of the presentation and its materials.

FIELD WORK ASSIGNMENT

The class will be split in groups and each group will be responsible for examining an environmental issue in a real-life setting. This will require some visits to local parks and collecting data such as soil erosion, soil compaction, vegetation cover, and brief informal surveys with park users. You will need to make a visit to the park of your choice several times during the semester. During the first visit your group will take baseline measurements of soil erosion, soil compaction and vegetation cover. Two months later, you will have to take the same metrics at the exact same location. This will give you two data sets to analyze and compare whether any changes have occurred in relation to soil compaction, soil erosion and vegetation cover. The instructor for the class will provide all necessary equipment and have a designated class time to show you how measurements are taken and how to use the equipment. In addition, during the park visits, each group is encouraged to distribute a short survey to park users to gauge their knowledge about the state of the environment in the park. Once again, the instructor for the class will work with each group and assist in the design of the survey. The final report for this assignment will include a brief description of the park setting, and a table with basic statistics analysis illustrating how (if) the measured variables changed over time. Lastly, if any change occurred, a short paragraph needs to explain the possible cause for these changes and propose a possible solution for preventing further negative impacts to the natural environment at the park.

ENVIRONMENTAL SUSTAINABILITY IN SPORT ASSIGNMENT

This is an individual assignment. Each student is to research their favorite sport or recreational activity and report on the sustainability efforts of the chosen sport or recreational activity. The paper for this

assignment needs to be between 2-3 pages long. Some sample questions you should consider include: What current efforts are they engaging in? What are some of the goals they have for the future? What are some of the weaknesses of their current efforts? What are some of the strengths? Have they partnered with any environmental agencies or organizations to help them in their efforts? Continue with this line of questioning to develop a full report of their operations, goals, and outcomes.

CLASSROOM DISCUSSION ASSIGNMENT

Each student will be responsible for leading a class discussion on a topic of their choice relevant to environmental sustainability in sport. For more details on this assignment, please see the grading rubric below.

EVALUATION RUBRIC FOR DISCUSSION

Criteria	0.5	1.5	2.5 (full points)
Preparation (2.5 points)	<ul style="list-style-type: none"> <input type="checkbox"/> Did not follow guidelines <input type="checkbox"/> Unprofessional attire and appearance <input type="checkbox"/> Appeared not to be prepared 	<ul style="list-style-type: none"> <input type="checkbox"/> Appeared to follow guidelines <input type="checkbox"/> Professional attire and appearance <input type="checkbox"/> Appeared sufficiently prepared 	<ul style="list-style-type: none"> <input type="checkbox"/> Clearly followed guidelines <input type="checkbox"/> Professional attire and appearance <input type="checkbox"/> Well-rehearsed and prepared
Quality of discussion questions (2.5 points)	<ul style="list-style-type: none"> <input type="checkbox"/> Less than satisfactory quality of questions <input type="checkbox"/> Questions not clear <input type="checkbox"/> Questions not relevant to topic of discussion 	<ul style="list-style-type: none"> <input type="checkbox"/> Satisfactory quality of questions <input type="checkbox"/> Questions clear <input type="checkbox"/> Questions relevant 	<ul style="list-style-type: none"> <input type="checkbox"/> Superior quality of questions <input type="checkbox"/> Questions clear <input type="checkbox"/> Questions relevant and combine content of all readings
Knowledge and understanding of concepts (2.5 points)	<ul style="list-style-type: none"> <input type="checkbox"/> Demonstrated limited understanding of discussion topic <input type="checkbox"/> Did not pick relevant additional articles 	<ul style="list-style-type: none"> <input type="checkbox"/> Demonstrated satisfactory understanding of discussion topic <input type="checkbox"/> Picked relevant additional articles 	<ul style="list-style-type: none"> <input type="checkbox"/> Demonstrated superior understanding of discussion topic <input type="checkbox"/> Explained very well the connection and relevance of additional articles to readings provided for class
Delivery and level of involvement of classmates (2.5 points)	<ul style="list-style-type: none"> <input type="checkbox"/> Significantly over/under time limit <input type="checkbox"/> No real attempt to capture audience's attention <input type="checkbox"/> Did not involve classmates 	<ul style="list-style-type: none"> <input type="checkbox"/> Barely within time limit; rushed or slow <input type="checkbox"/> Weak attempt to capture audience's attention <input type="checkbox"/> Involved classmates 	<ul style="list-style-type: none"> <input type="checkbox"/> Within time limit; good pace <input type="checkbox"/> Clearly captured audience attention <input type="checkbox"/> Involved classmates
Total points			

PERSONAL ENVIRONMENTAL SUSTAINABILITY GOAL

This is not a formally graded assignment. Instead, this activity is simply an honor-based promise to change one simple behavior that will minimize the negative impact on the environment. For example, one personal sustainability goal might be, "I will commit to decreasing the time I take for showers", or "I will commit to recycling plastic", etc. Throughout the semester we all as a class will check on each other's progress and see how well everyone is progressing toward their individual goals. The purpose of this assignment is to make environmental sustainability real in our personal lives, while we learn about it in our professional lives.

COURSE POLICIES

ATTENDANCE

- You are expected to attend classes regularly and participate actively in order to succeed in this course.
- Daily discussions and activities will help you understand and apply ideas, theories, and concepts more effectively.
- Laptop computers can be used, but they will be subject to spot examinations should suspicions arise of non-course related work being done in class. Subsequently, anyone caught not participating in course-related work on their computer will not be allowed to bring it back to class until directed to do so.
- Participation is defined as taking part in discussions of assigned readings and attention to others in the class in such discussions. Also, participation includes active attention during lectures (including guests). Through these interactions, we will work to improve individual and collective listening, analytical, and creative thinking skills.
- Although all questions and comments during the class are welcome, please be aware that we are all in this together and there is an expectation of civility to all fellow class members (including guests). You are encouraged to bring interesting and informative readings, articles, situations, et cetera to class to share with the group which might be relevant to the class or any topic under discussion.

ELECTRONIC DEVICES

Please turn off all cellular phones, pagers, and other electronic equipment prior to coming to class. This is common courtesy to your classmates and your professor. If your job requires that you stay in constant contact, notify the instructor at the start of the course; set your phone on vibrate; and should you have a call, step out into the hallway, take the call and return to class promptly.

ASSIGNMENTS/LATE WORK

- Late work will not be accepted unless covered by university-approved excuses. In these situations, please contact the instructor before you miss the class if possible.
- Computer problems are not an excuse for late work. Be prepared and make certain that all of your computer equipment is in working order. Have back-up plans ready, such as the nearest computer lab, in case of trouble, so please plan ahead.
- You are expected to read all assigned readings prior to class. Materials beyond the textbook will be provided via Canvas.
- Please be aware that at times you may be asked to put your thoughts about a reading down on paper in preparation for class discussion.

- Students are expected to complete all assignments, activities, et cetera. APA format style (7th Edition) is required for relevant materials unless otherwise directed, mostly for page numbers, citation of sources in the text, and reference pages. Please see a copy of the APA manual. No cover pages are needed, but the name (all team members in the group project), date, and course name and number should appear on the top right-hand corner of the paper.
- All assignments must be typed and electronically submitted via the Canvas course site.

ACADEMIC HONESTY

Students are expected to abide by the Honor Statement of the university student handbook. Each student must adhere to the Honor Statement by turning in original work in all assignments and exams. Any violation of the Honor Statement will be dealt with according to the rules outlined in the university student handbook.

SYLLABUS ALTERATION POLICY

This syllabus is a guide for the course and is subject to change with advanced notice. Please keep in mind that since several outside speakers may be visiting class, the weekly schedule may have to be modified to fit their availability and schedule. Advanced notice will be given if adjustments to the schedule are needed.

COURSE SCHEDULE

Week	Topic	Assignment(s)
1	Class overview and discussion of the syllabus	
1	Personal view statement on sustainability	Set personal sustainability goals
2	Overview of environmental sustainability in sport & recreation management	
2	LEED - http://www.usgbc.org/leed Review - http://greensportsalliance.org/ Review - http://collegiate.greensports.org/ Review - http://www.greensports.org/ Read - https://www.nrdc.org/stories/greening-playing-fields	Jamee Pelcher
3	Ch. 1 EPA requirements – EI Assessment vs EI Statement	Due: Reflection paper - my view and my career view
3	Ch. 2 Adidas Analysis - http://www.adidas-group.com/en/sustainability/planet/environmental-approach/	
4	Ch. 3 NFL sustainability practices - http://www.philadelphiaeagles.com/community/gogreen.html	

4	Ch. 4 Marketing sustainability through sport – organization's communications, vendor selection, "green washing"	
5	The IOC and sustainable Olympics: https://www.olympic.org/sustainability Summer Olympics – 2000-2016	
5	Field work	
6	Ch. 5 Public policies – measures and standards used in sustainability	Due: Reflection paper - athletics view
6	Ch. 6 Environmental sustainability and facility management – operations, sponsorship, supply chain, ticket sales, legal aspects	Guest - Dr. Tim Kellison
7	Ch. 7 Environmental auditing: http://orienteering.org/wp-content/uploads/2010/12/IOF-2001-World-Champs-environmental-audit-report.pdf https://www.thersa.org/globalassets/pdfs/rsa-environmental-audit-report.pdf	
7	Ch. 8 Ohio Office of Sustainability: https://www.ohio.edu/sustainability/reporting/Sustainability-Plan-Report.cfm#progress	Due: Sustainable practices of favorite sport
8	Ch. 9 Design a new sport facility & incorporate environmentally sustainable building features and practices	Guest - Dr. Brian McCullough
8	Ch. 10 NHL environmental sustainability practices	Guest - Jamee Pelcher
9	Ch. 11 Golf environmental sustainability practices	Guest - Lewis Blaustein - Founder of EcoAthletes
9	Field work	
10	Ch. 12 Create environmental sustainability strategic plan for a sport organization	Guest - Brian Blackmon
10	Ch. 13 NBA environmental sustainability practices	Guest - Dr. Walker Ross Due: Field work

11	Ch. 14 MLB environmental sustainability practices	Guest - Dr. Michael Pfahl
11	Ch. 15 Tennis environmental sustainability practices	Guest - Dr. Maddy Orr
12	Ch. 16 Recreational sports environmental sustainability practices	Guest - Dr. Sheila Nguyen
12	Team case study analysis presentations	Due: Case study analysis
13	Team case study analysis presentations	
13	Team case study analysis presentations	
14	Non textbook reading, will be posted on Canvas: Case Study – Formula One	
14	Last day of class & evaluations	

CONCLUSION

To conclude, this course and subsequent syllabus are designed to address environmental sustainability in sport in particular, not sustainability in general. Students will be well served with a course that provides deep knowledge on the interplay between sport and the environment (addressing the environmental aspect of sustainability). In order to deliver high quality of education, it is critical that students are provided with a profound knowledge on the particular subject. The course would also be beneficial to faculty and institutions of higher education that are not only interested in teaching environmental sustainability in sport, but also in developing a curriculum for a graduate certificate or a degree in sustainability in general (e.g., Arizona State University). Such curricula, in addition to having a course specifically dedicated environmental sustainability in sport, could also include courses focused on other broader topics such as sustainability leadership, sustainable food systems, sustainable energy, materials and technology, water quality and supply, international development, ecosystems, social transformations, and policy and governance.

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