

## Water Sports Physiology and Practice

Credits	Language	Term	Year	Start Date	End Date
3	English	Summer	2019	Jun 22	Jul 5

### **Course Description:**

Physical activity is a fundamental part of a healthy lifestyle and can serve as a mean to promote well-being and prevent or even treat pathological conditions. Understanding the complex concept of exercise, both in terms of its effects on human body (physiological adaptations during exercise, impact on energy metabolism, interaction with nutrition in athletic performance and health benefits) and in terms of its functional and sustainable application in sports facilities (management, administration, logistics and promotion of sports centers) is essential for all students in the fields of kinesiology, sports management and health sciences, as well as other specialties. Among all types of exercise, participation in water sports is associated with significant benefits for physical and mental health. Interestingly, the recreational use of inland and marine waters is increasing worldwide, suggesting that water sports consist a popular, enjoyable and sustainable form of physical activity that can serve as a basis for studying both scientific and administrative aspects of exercise.

The course “Water Sports Physiology and Practice” is based on the examination of the mechanics, physiology and science of water sports. The course will introduce the fundamentals of exercise physiology, sports nutrition, and energy metabolism. These basic principles will serve as the foundation for the importance of the association between sports, fitness, health and wellness. Students will also learn the basic skills and practical application of advanced water sports, such as surf, windsurf, kayak, SUP, and sailing. Emphasis will be given on the mind body connection through skill acquisition and demonstration of techniques. Students will also gain practical experience in aquatic learning center management through involvement in the running of the center. The course also introduces students to sports management theory and key issues which are specific to the watersports industry. Finally, all participants will improve water confidence and team working skills.

The program will take place in Greece, a Mediterranean country with a rich exercise- and health-related history, as well as long beach coasts of natural beauty where water sports can be thoroughly studied and safely practiced. The core of the course will be hosted at the Surf Club Keros aquatics learning center (<http://surfclubkeros.com>), a modern, certified water sports camp in the Greek island of Lemnos. While at Lemnos, students will have the opportunity to study water sports from both a theoretical and a practical point of view, participate in various alternate water-related activities that promote wellness and gain insight into sports management. For the final three days of the trip, students will travel to Athens, the capital of Greece, where they will experience the Athenian historical and cultural lifestyle, as well as learn about the history and evolution of exercise through visits to monumental sites, including the Parthenon and the Acropolis museum (World Heritage Sites), as well as the Panathinaikon Stadium (the site of the first modern Olympic Games).

During the 2-week program, some days will be devoted to theoretical lectures, discussion sessions or workshops followed by water sports practice. Other days will be devoted entirely to field trips, excursions and interactive educational activities, including visits to monumental sites and cultural places of natural beauty, demonstrations of unique exercise practices and techniques, as well as collective activities in nature.

### **Pre-Requisites:**

Instructor’s consent, minimum GPA 2.5, moderate fitness and swimming level is recommended.  
Prior experience in water sports is not required.

### **Objectives:**

1. Gain insight into the complex concept of physical activity that encompasses both the application of organized sports activities and the implementation of everyday lifestyle activities.

2. Obtain basic theoretical knowledge on exercise physiology, energy metabolism and sports nutrition.
3. Critically understand and interpret scientific data regarding the beneficial effects of exercise on health.
4. Cultivate skills and competencies in practicing and/or teaching water sports.
5. Familiarize with and experience the non-physical aspects of exercise, such as stress relief, relaxation and promotion of mind-body connection.
6. Become aware of the history and evolution of physical activity in the Mediterranean region.
7. Gain insight into sports facilities management and business of sport.

**Course Materials:**

- Lectures, notes and other files relevant to the course’s learning objectives (printed and electronic material).
- Swimming and Water Safety - Red Cross, available at:  
[https://www.redcross.org/content/dam/redcross/atg/PDF\\_s/SwimmingWaterSafety.pdf](https://www.redcross.org/content/dam/redcross/atg/PDF_s/SwimmingWaterSafety.pdf)
- Research papers relevant to the course’s learning objectives (**mandatory readings**):
  - Physical Activity Guidelines for Americans. U.S. Department of Health and Human Services; 2008.
  - Warburton DE, Nicol CW and Bredin SS. Health benefits of physical activity: the evidence. CMAJ. 2006;174(6):801-9.
  - Sato D, Kaneda K, Wakabayashi H, and Nomura T. The water exercise improves health-related quality of life of frail elderly people at day service facility. Qual Life Res. 2007;16:1577-85.
  - Farley OR, Harris NK, and Kilding AE. Anaerobic and Aerobic Fitness Profiling of Competitive Surfers. Journal of Strength & Conditioning Research. 2012;26 (8):2243-8.
  - Farley OR, Harris NK, and Kilding AE. Physiological Demands of Competitive Surfing. 2012. Journal of Strength & Conditioning Research. 2012;26(7):1887-96.
  - Thomas D, Erdman KA, and Burke LM. Position of the Academy of Nutrition and Dietetics, Dietitians of Canada, and the American College of Sports Medicine: Nutrition and Athletic Performance. Journal of the Academy of Nutrition and Dietetics. 2016;116(3):501 – 528.
  - Ratten V. Entrepreneurial intentions of surf tourists. Tourism Review. 2018.;73(2):262-276.
  - Taylor J. Giving kids a break: how surfing has helped young people in Cornwall overcome mental health and social difficulties. Mental Health and Social Inclusion. 2013;17(2):82-86.
  - Moutinho L, Dionisio P, and Leal C. Surf tribal behaviour: a sports marketing application. Marketing Intelligence & Planning. 2007;25(7):668-690.
  - Ratten V. Social innovation in sport: the creation of Santa Cruz as a world surfing reserve. International Journal of Innovation Science. 2018.

**Instructors:**

**Labros Sidossis, PhD**, Department of Kinesiology and Health, School of Arts and Sciences, Rutgers University.

**Course Requirements:**

<b>Coursework</b>	<b>Due Date</b>	<b>Possible Points</b>
Participation and professionalism	Throughout the course	30 points
Practice performance	Throughout the course	20 points
Quizzes	Throughout the course	50 points
<b>Total</b>		<b>100</b>

**Grading:**

There are 100 total points for the course.

100-90=A	89-85=B+	84-80=B	79-75=C+	74-70=C	69-65=D+	64-60=D	<60=F
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## Preliminary Schedule

(Subject to change according to instructor availability and environmental conditions)

Day	Educational activity	Topic	Objectives met	Contact hours*
	<ul style="list-style-type: none"> <li>• Pre-departure orientation</li> </ul>	<ul style="list-style-type: none"> <li>• Study abroad basics &amp; travel logistics</li> </ul>	-	2
Jun 21 <sup>st</sup>	<ul style="list-style-type: none"> <li>• Travel day</li> </ul>	<ul style="list-style-type: none"> <li>• Travel to Greece</li> </ul>	-	-
Jun 22 <sup>nd</sup>	<ul style="list-style-type: none"> <li>• Welcome lecture</li> <li>• Welcome dinner</li> </ul>	<ul style="list-style-type: none"> <li>• Brief introduction to the course</li> </ul>	-	2
Jun 23 <sup>rd</sup>	<ul style="list-style-type: none"> <li>• Guided tour of Keros Surf Club</li> <li>• Welcoming distress, relaxation yoga session</li> <li>• Lecture &amp; discussion session</li> </ul>	<ul style="list-style-type: none"> <li>• Analytical presentation of the course (itinerary &amp; academics)</li> <li>• Introduction to water sports and industry</li> </ul>	1-5, 7	4
Jun 24 <sup>th</sup>	<ul style="list-style-type: none"> <li>• Lecture &amp; discussion session</li> <li>• Water sports practice</li> </ul>	<ul style="list-style-type: none"> <li>• Physical activity &amp; wellness</li> <li>• Sports management</li> <li>• Water sports science</li> </ul>	1-4, 7	4
Jun 25 <sup>th</sup>	<ul style="list-style-type: none"> <li>• Lecture &amp; discussion session</li> <li>• Water sports practice</li> <li>• Castle of Myrina sunset trip</li> </ul>	<ul style="list-style-type: none"> <li>• Exercise physiology</li> <li>• Fundamentals of sports marketing</li> <li>• Water sports science</li> <li>• Ancient Greek civilization</li> </ul>	1-4, 6, 7	6
Jun 26 <sup>th</sup>	<ul style="list-style-type: none"> <li>• Lecture &amp; discussion session</li> <li>• Water sports practice</li> <li>• Afternoon yoga session</li> </ul>	<ul style="list-style-type: none"> <li>• Sports nutrition</li> <li>• Water sports science</li> <li>• Stress relief &amp; relaxation</li> </ul>	1-5	5
Jun 27 <sup>th</sup>	<ul style="list-style-type: none"> <li>• Lecture &amp; discussion session</li> <li>• Sand dunes trip</li> <li>• Visit to the sponge diving museum</li> </ul>	<ul style="list-style-type: none"> <li>• Sport club management</li> <li>• Underwater diving</li> </ul>	1, 6, 7	5
Jun 28 <sup>th</sup>	<ul style="list-style-type: none"> <li>• Bike trip to Kaviria sanctuary &amp; the cave of Philoktitis</li> </ul>	<ul style="list-style-type: none"> <li>• Physical activity patterns in the Mediterranean lifestyle</li> </ul>	1-3, 6	4
Jun 29 <sup>th</sup>	<ul style="list-style-type: none"> <li>• Lecture &amp; discussion session</li> <li>• Water sports practice</li> <li>• SUP sunset Keros crossing</li> </ul>	<ul style="list-style-type: none"> <li>• Energy metabolism</li> <li>• Water sports science</li> <li>• Stress relief &amp; relaxation</li> </ul>	1-5	6
Jun 30 <sup>th</sup>	<ul style="list-style-type: none"> <li>• Free day</li> </ul>	<ul style="list-style-type: none"> <li>• Free day</li> </ul>	-	-
Jul 1 <sup>st</sup>	<ul style="list-style-type: none"> <li>• Water sports practice</li> </ul>	<ul style="list-style-type: none"> <li>• Water sports science</li> </ul>	4	2
Jul 2 <sup>nd</sup>	<ul style="list-style-type: none"> <li>• Travel to Athens</li> <li>• Athens City Bus Tour</li> <li>• Visit to the Panathinaiko stadium</li> </ul>	<ul style="list-style-type: none"> <li>• History &amp; evolution of physical activity</li> </ul>	1, 6	4
Jul 3 <sup>rd</sup>	<ul style="list-style-type: none"> <li>• Visit to the Parthenon</li> <li>• Visit to the Acropolis museum</li> </ul>	<ul style="list-style-type: none"> <li>• Connecting ancient history with contemporary way of living</li> </ul>	1, 6	4
Jul 4 <sup>th</sup>	<ul style="list-style-type: none"> <li>• Free day</li> </ul>	<ul style="list-style-type: none"> <li>• Free day</li> </ul>	-	-
Jul 5 <sup>th</sup>	<ul style="list-style-type: none"> <li>• Travel day</li> </ul>	<ul style="list-style-type: none"> <li>• Return to USA</li> </ul>	-	-
<b>Total</b>				<b>48</b>

\* Lectures, discussion sessions, practice hours and formal meetings with the students to present information or to review information, process and discuss what has been experienced in the field, etc.

### Practice Performance Rubric

Criteria	Below expected level (1)	On the expected level (2)	Above expected level (3)
<b>Safety</b>	Students must be reminded several times to the safety rules and procedures.	Students work in accordance with the safety rules and procedures.	Students have the safety rules and procedures included in his/her routine.
<b>Techniques</b>	Students demonstrate less knowledge about common used watersports techniques.	Students demonstrate the common used watersports techniques correct.	Students can make a case for the choice of water sports technique if needed. Students can determine on his/her own which watersports technique is most appropriate.
<b>Attitudes and Values</b>	Students must be reminded to practice in a non-discriminatory way and accept a range of abilities.	Students respect the rights of other, accepting a range of abilities and use non-discriminatory practices.	Students respect the rights of other, accepting a range of abilities in his/her routine. Students promote inclusiveness and non-discriminatory practices.
<b>Social responsibility</b>	Students need reminders and encouragement from others to participate in a fair, energetic and/or respectful manner.	Students participate energetically and respect for others.	Students demonstrate appropriate competitive behavior and respect for the positive experience of others. Students appropriately challenge themselves and others to high levels of performance.
<b>Positive/Appropriate Behaviours Effort</b>	Students display minimal positive attitude and willingness to perform to the best.	Students demonstrate willingness to perform to the best of his/her ability. Students occasionally display positive attitude and open-mindedness to new activities.	Students always demonstrate willingness to perform to the best of his/her ability. Students always display positive attitude and open-mindedness to new activities.
<b>Equipment set-up Respect for equipment and facility</b>	Students must be reminded to care equipment and facility.	Students usually care equipment and facility.	Students always demonstrate respect and care equipment and facility.