

## Exercise Science

### Science of Surfing and Sailing

The application of classical oceanography to the sports of surfing and sailing can aid in the understanding of important physical concepts. This course focuses on the development and propagation of energy in the form of wind and waves and how surfers and sailors use this energy to propel their vessels forward. Students will use mathematical understanding to quantify how the physical properties of water and air apply to both surfing and sailing. This knowledge will be put into practical use during a 15-hour sailing course given by the Carraroe Sailing School and through multiple surfing lessons. Students will understand important physical principles such as the amount of power a wave produces as well as why a boat can sail upwind using Bernoulli's Principle. Students will attain a better grasp of both physics and math via the goal of becoming better surfers and sailors.  
Gain experience in the iconic Galway Hooker Boat

### Coastal Management

Coastal management is complex and integrates multidisciplinary natural and social sciences. It requires continuous exploration and knowledge about the relationships between habitats, applied ecology, climate, oceanography, watersheds and all types of human activities that affect coastal ecosystems as well as coastal communities (e.g. urban development, tourism, fisheries, protected areas, aquaculture, agriculture, etc.). Numerous issues face the world's coastlines and the key question is whether coasts can be managed to successfully and sustainably absorb the pressures. Understanding the function, health, and resilience of coastal ecosystems is imperative for successful applications in adaptive coastal management. This course follows a case study approach and provides a general overview of past and present activities as well as potential future practices in integrated coastal management. It will also describe main principles, strategies and methods in coastal management, development of a coastal management plan and the basic processes of its implementation.

### Coaching Methods

This course investigates effective coaching methods from a physiologic, psychological, and administrative framework. Students will be guided through an analysis of contemporary research and critical evaluation of current practices resulting in the development of an applied personal coaching methodology. In the process, this course addresses the promotion of interpersonal skills and the understanding of individual differences as they relate to effective sport coaching practice.

### Health & Fitness: An Irish Perspective

Compare and contrast cultural differences between North American and Ireland cultures as it pertains to health, fitness, activity patterns, medical care & health costs. Students will participate in at least one health promotion activity, hear from a guest speaker and/or visit the Irish Sports Council and the Irish Institute of Sport, and take advantage of daily fitness opportunities in County Kerry

**Anatomy and Physiology I**

Lecture on the investigation of the tissues, skeletal, muscular, and nervous systems. This section is for students interested in athletic training, exercise science, physical therapy, occupational therapy, or physician assistant programs.

**Sport and Exercise Psychology**

Combining classroom lectures with a range of field trips, self-study and even sports training opportunities, this course provides students interested in sport and exercise psychology with an overview of the basic theories and principles to understand the psychological and behavioral aspects of sports and exercise within the Irish sports industry. The introductory level course is designed for students from a range of disciplines (such as Health Education, Physical Education, Exercise Science, Sports Management, and Coaching & Sports Management) and is relevant for broader health studies or exercise science programs.

Along with exploring applied aspects of sports performance enhancement and mental skills, exercise behavior and motivation, the sociological factors related to health and wellbeing of participants, students will also examine how participating in sports, exercise and physical activities affects the psychological well being of participants, coaches, spectators and fans.

**Hiking course**