

# IB Sports, Exercise & Health Science

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# Course Description

- \* The IB course in sports, exercise and health science standard level (SL) involves the study of the science that underpins physical performance. The course incorporates the traditional disciplines of anatomy and physiology, biomechanics, psychology and nutrition. Students cover a range of topics and carry out practical (experimental) investigations in both laboratory and field settings. This provides an opportunity to acquire the knowledge and understanding necessary to apply scientific principles and critically analyze human performance. Where relevant, the course will address issues of international dimensions and ethics by considering sport, exercise and health relative to the individual in a global context.

# Course Aims

**\* The aims of the sports, exercise and health science SL course are to:**

- provide stimulating and challenging opportunities for scientific study and creativity within a global context
- provide a body of knowledge, methods and techniques that characterize science and technology
- enable students to apply and use a body of knowledge, methods and techniques that characterize science and technology
- develop an ability to analyze, evaluate and synthesize scientific information
- engender an awareness of the need for, and the value of, effective collaboration and communication during scientific activities
- develop experimental and investigative scientific skills
- develop and apply the students' information and communication technology skills in the study of science
- raise awareness of the moral, ethical, social, economic and environmental implications of using science and technology
- develop an appreciation of the possibilities and limitations associated with science and scientists
- encourage an understanding of the relationships between scientific disciplines and the overarching nature of the scientific method.

# Course Overview

## 6 Core Topics

### Topic 1: Anatomy

- The skeletal system
- The muscular system

### Topic 2: Exercise physiology

- Structure and function of the ventilatory system
- Structure and function of the cardiovascular system

### Topic 3: Energy systems

- Nutrition
- Carbohydrate and fat metabolism
- Nutrition and energy systems
- Principles of training program design

### Topic 4: Movement analysis

- Neuromuscular function
- Joint and movement type
- Fundamentals of biomechanics

### Topic 5: Skill in sport

- The characteristic and classification of skill
- Information processing
- Principles of skill learning

### Topic 6: Measurement and evaluation of human performance

- Statistical analysis
- Study design
- Components of fitness

# Course Overview Cont.

## *Optional Topics*

- \* Students are required to study any two of four options.
- \* A. Optimizing physiological performance
- \* B. Psychology of sport
- \* C. Physical activity and health
- \* D. Nutrition for sport, exercise and health

# Course Exam Info

- \* In early May, you have the choice to take the IB Exam
  - \* If you are an IB Diploma candidate, you must take the exam
  - \* The IB Exam will not effect your report card grade from me
  - \* If you take the IB Exam you are exempt from an in-class final
    - \* If you do not take the IB Exam then you will take an prior year's IB test in class as your final exam.

# Internal Assessment Info

- \* Everyone will be required to complete an Internal Assessment (IA)
  - \* A lab that you construct that demonstrates mastery of the course material, proper application and study design
  - \* If you are going to take the IB Exam, you must complete this on your own
  - \* If you are NOT going to take the IB Exam, you can work individually or groups of two or three.
  - \* For the IB test takers, this will count towards your IB score for the class
  - \* The IA WILL count towards your grade in my class

# Course Info

- \* We are at a slight disadvantage but we will be just fine
  - \* This is a Standard Level (SL) IB course
  - \* Most other schools offer this as a two year SL course
    - \* We are finishing it on one year
    - \* Which means we will be on the hustle all year to finish in time for the exam
  - \* As a college level course, I will be treating as such
    - \* Like always, you must advocate for yourself if you need help