

<b>Course Title</b>	:	Applied Sports Science
<b>Recommended Study Year</b>	:	3
<b>No. of Credits/Term</b>	:	3
<b>Mode of Tuition</b>	:	Sectional Approach
<b>Class Contact Hours</b>	:	3 hours per week
<b>Category in Major Prog.</b>	:	Programme Required
<b>Discipline</b>	:	Sports
<b>Prerequisite(s)</b>	:	N/A
<b>Co-requisite(s)</b>	:	N/A
<b>Exclusion(s)</b>	:	N/A
<b>Exemption Requirement(s)</b>	:	N/A

### **Brief Course Description**

This course focuses on the knowledge and skills to applying principle of sports science to practice. Different aspects in sports and exercise science are covered which include anatomy, physiology, biomechanics and nutrition. The contents will focus on the application on real sporting situations such as on-field performance monitoring, analysis on coaching outcome, etc. Upon completion the course, students are equipped with the knowledge and skills to applying the concept of sports science in their coaching process to enhance the performance, improve health and reduce the chance of injury of the athletes. The course also provides students an overview of new trend and new technology to be used in the aspects of sports coaching.

### **Aims**

This course aims to:

1. reveal the concept of anatomy, physiology, biomechanics and nutrition;
2. explain the factors determining sporting performance, the methods to assess athletes' abilities and the ways to improve the coaching process;
3. elaborate the scientific principles for sports performance enhancement and injury prevention;
4. guide the students to apply the sports science knowledge to the practice of sports coaching.

### **Learning Outcomes (LOs)**

On successful completion of this course, students will be able to:

1. effectively organize conditioning training programmes in enhancing sports performance;
2. comprehensively understand the need of athletes from different sports science domains;
3. critically analyze sports skills and training programmes, and suggest improvement based on the evidence-based sports science knowledge; and
4. plan and adjust training programmes with the use of modern sports technology such as real-time sensors and monitoring systems.

## Indicative Content

1. Human movement and functional anatomy
2. Applied sports biomechanics
3. Common sports injuries and rehabilitation
4. Application of exercise physiology
5. Strength and conditioning for both elite and recreational athletes
6. Sport nutrition for performance enhancement
7. Use of sports science in physical education
8. Sports for health promotion
9. Sports engineering and technology

## Teaching Methods

The course is delivered through lectures, classroom discussions, case studies, workshops and tutorials. Through the teaching and learning activities, students are facilitated to achieve the CILOs via interactive and student-centered approaches. Each lecture will be accompanied by relevant reading materials which students would have to read before the tutorial session.

## Measurement of Learning Outcomes

Individual assignment(s) require students to show his concept and knowledge in sport science, it provides student the opportunity to apply their knowledge and concept of sport science in the programme.

Group practical assessment provides the opportunity for students to integrate and apply the knowledge and concepts of sport science. Students are required to search and study the required materials, and demonstrate their knowledge in class.

Final examination assesses students' overall achievement for the course. It assesses students' ability to understand and apply all knowledge and skills learnt from the course.

Learning Outcome	Individual assignment(s)	Group practical assessment	Final examination
1. Effectively organize conditioning training programmes in enhancing sports performance		✓	
2. Comprehensively understand the need of athletes from different sports science domains	✓	✓	✓
3. Critically analyze sports skills and training programmes, and suggest improvement based on the	✓	✓	✓

evidence-based sports science knowledge			
4. Plan and adjust training programmes with the use of modern sports technology such as real-time sensors and monitoring systems		✓	✓

### Assessment

<b>Continuous Assessment</b>	<b>50%</b>
1. 20% Individual assignment(s)	
2. 30% Group practical assessment	
<b>Final examination</b>	<b>50%</b>

### Required/Essential Readings

Dick, F.W. (2014). *Sports Training Principles: An Introduction to Sports Science* (6 ed.). Bloomsbury Publishing.

French, D., Ronda, L.T. (2021). *NSCA's Essentials of Sport Science*. Human Kinetics.

Fuss, F. K., Subic, A., Strangwood, M., & Mehta, R. (Eds.). (2013). *Routledge handbook of sports technology and engineering*. Routledge.

### Recommended/Supplementary Readings

Baechle, T.R., & Earle, R.W. (Eds), (2008). *Essentials of strength training and conditioning*, (3rd ed), National Strength and Conditioning Association, Champaign, IL: Human Kinetics.

Bahr, R., Engebretsen, L., Laprade, R., McCrory, P., & Meeuwisse, W. (Eds.). (2012). *The IOC manual of sports injuries: An illustrated guide to the management of injuries in physical activity*. John Wiley & Sons.

Benardot, D. (2020). *Advanced sports nutrition*. Human Kinetics Publishers.

Draper, N., & Marshall, H. (2014). *Exercise physiology: for health and sports performance*. Routledge.

Prentice, W.E. (2017). *Principles of athletic training – a guide to evidence-based clinical practice*, (16th ed.), N.Y.: McGraw-Hill Education.

*\*Additional readings may also be suggested on a topic by topic basis*

### Important Notes:

1. Students are expected to spend a total of 9 hours (i.e. 3 hours of class contact and 6 hours of personal study) per week to achieve the course learning outcomes.

2. Students shall be aware of the University regulations about dishonest practice in coursework, tests and examinations, and the possible consequences as stipulated in the Regulations Governing University Examinations. In particular, plagiarism, being a kind of dishonest practice, is “the presentation of another person’s work without proper acknowledgement of the source, including exact phrases, or summarised ideas, or even footnotes/citations, whether protected by copyright or not, as the student’s own work”. Students are required to strictly follow university regulations governing academic integrity and honesty.
3. Students are required to submit writing assignment(s) using Turnitin.
4. To enhance students’ understanding of plagiarism, a mini-course “Online Tutorial on Plagiarism Awareness” is available on <https://pla.ln.edu.hk/>.