

**DISCLAIMER:** The course outline below serves as a general informational guide for students. Course content and assessment modes may vary for different lecturers. Actual course outlines will be made known to students on GeNIEus by the individual lecturers. **DO NOT** purchase textbooks based on the information contained in this document.

## **IPE3103 ANATOMICAL & BIOMECHANICAL FOUNDATIONS OF PHYSICAL ACTIVITY**

### **COURSE DESCRIPTION**

This course enables student teachers to relate human anatomy to physical activities and to apply the principles of biomechanics to the teaching physical skills.

Structural anatomy deals with the knowledge and an understanding of the bones, joints and muscle structure that produces movement. Biomechanics is the study of a biological system by means of mechanics. This course introduces the basic mechanical concepts and principles that govern human movement. Student teachers will be exposed to analysis of sports using basic concepts of mechanics and anatomy.

### **COURSE OBJECTIVES**

At the completion of this course, student teachers will be able to:

1. Demonstrate an understanding of basic human anatomy and the principles of mechanics in relation to producing movement.
2. Demonstrate the ability to effectively analyse selected motor patterns.
3. Demonstrate the knowledge and ability to apply course content to the teaching and coaching of human movement.

### **COURSE CONTENT**

1. Introduction to Human Anatomy
2. Skeletal System
3. Muscular System
4. Introduction to Biomechanics
5. Basic Mechanical Principles
6. Qualitative Analysis
7. Quantitative Analysis

## **COURSE ASSESSMENT**

	<b>Component weightage</b>	<b>Due Dates</b>
Anatomy Test	20 %	dd-mm-yr
Biomechanics Lab Report	40 %	dd-mm-yr
Class Tests/Quizzes	40 %	dd-mm-yr

Attendance at and participation in all classes are compulsory.

## **COURSE REFERENCES**

Required/Recommended Text(s)

1. Hall (2011). *Basic Biomechanics* (6th Ed.). McGraw-Hill.

Additional References

1. Thompson and Floyd (2007). *Manual of Structural Kinesiology* (16<sup>th</sup> ED). McGraw Hill.
2. Koh and Tan (2004). *Understanding Biomechanics for Physical Education and Sports*. McGraw-Hill: Singapore.