# **FELLOWSHIP IN BIOMECHANICS & KINESIOLOGY (FBMK)**

**Course Overview**

This fellowship program is designed to enhance the fundamental expertise of physiotherapists in biomechanics, kinesiology & ergonomics. The curriculum integrates theoretical knowledge with practical application through lectures, hands-on workshops, and case-based discussions.

**Course Structure**

* **Duration:** 3 Months
* **Total Hours:** 52 (Weekend classes)
* **Mode:** Blended (Online & Offline)
* **Assessment:** Practical exams, case presentations, and final evaluation

**Module 1: Introduction to Biomechanics (6 hours)**

* **Fundamentals of Human Movement Science**
* **Kinetics & Kinematics of Motion**
* **Tissue Biomechanics & Injury Mechanisms**

**Module 2: Gait & Postural Biomechanics (6 hours)**

* **Gait Cycle Analysis & Common Gait Abnormalities**
* **Postural Alignment & Deviation Assessment**
* **Orthotic & Prosthetic Biomechanics**

**Module 3: Biomechanics of Joints (18 hours)**

* **Biomechanics of lower limb**
* **Biomechanics of upper limb**

**Module 4: Biomechanics of Spine (8 hours)**

* **Motion Capture Technology & Force Plate Analysis**
* **Biomechanics of Common Musculoskeletal Disorders**
* **Manual & Instrumented Biomechanical Assessment**

**Module 5: Biomechanics of Respiration & TMJ (4 hours)**

* **Respiratory Biomechanics**
* **Biomechanics of TMJ**

**Module 6: Ergonomics (4 hours)**

* **Ergonomics & Occupational Biomechanics**
* **Load Management & Fatigue Monitoring in Athletes**
* **Technology & AI in Biomechanical Assessments**

**Module 7: Biomechanics in Sports (4 hours)**

* **Biomechanics of Sprinting, Jumping, and Throwing**
* **Muscle Activation & Kinetic Chain Analysis**

**Module 8: Final Assessment & Certification (2 hours)**

* **Live Case Studies & Practical Exam**
* **Biomechanical Correction Techniques**
* **Certification Awarded**