

COURSES IFBB



MASTER BODYBUILDING AND FITNESS DEGREE

MODULE I

Topic 1: Basic concepts of the skeletal muscle system

- Structure and function of the skeletal system (bones)
- Structure and function of the articular system
- Structure and function of the muscular system
- Musculoskeletal adaptations to weight training

Topic 2: General Physiology

- The bone system
- The muscular system
- The cardiovascular system
- Bioenergetics
- The foundations of the neuromuscular system
- The foundations of the endocrine system

Topic 3: Exercise Physiology

- Proprioception and neuromuscular control during exercise
- Metabolic, cardiovascular, pulmonary and endocrine adaptations and responses to weight training
- The safety of weight training: hemodynamic factors and cardiovascular incidents
- Physiological aspects and safe prescription of bodybuilding exercises for special populations

Topic 4: Musculoskeletal injuries

- Definition
- Mechanics of injuries Principles of injuries
- Lower limb injuries
- Upper limb injuries
- Trunk injuries

Topic 5: Basic concepts of anthropometry

- Definition
- Body size
- Somatotype
- Variations of the human body dimensions and their relations with the Weight Training machines

MODULE II

Topic 6: Kinesiological foundations of bodybuilding

- Muscular functions
- Classification of muscles
- Factors that affect muscle function
- Muscle Imbalances
- Tables of muscle actions
- Specific movements and muscles for each joint
- Movement-specific joints and muscles

Topic 7: Biomechanics foundations of Weight Training

- Kinematics: the description of the movement
- Kinetics: Analysis of forces
- Applications of biomechanics in weight training
- Work and muscle power
- Curves
- Classification of Weight Training exercises
- Mechanical conditions for the development of strength and hypertrophy
- Resources used in weight training
- Training machines; joint biomechanics and bodybuilding methods

Topic 8: Kinesiology and biomechanics applied to Weight Training exercises

- Applied kinesiology
- Main bodybuilding exercises



MODULE III

Topic 9: Basic nutrition

- Metabolism and energy balance
- Carbohydrates
- Proteins
- Fats
- Vitamins, minerals and water.
- Nutritional pyramid for performance
- Natural anabolic nutrition
- Basic sport nutrition
- The supplements
- The 20 best foods
- The recovery

MODULE IV

Topic 10: Training cycles and programs

- Training systems for beginners, Intermediate level and Advance level
- The perfect warm up
- Stretching
- Basic breathing and muscle relaxation techniques
- Practical training principles
- Cardiovascular training

MODULE V

Topic 11: Personalized physical activity

- Aerobic Training
- Activities that meet the demands of aerobic work
- Starting over
- Establishing a Program
- Anaerobic training
- List of exercises

MODULE VI

Topic 12: Abdominal: Anatomy and Structure

- Anatomy of the abdominal wall
- Muscles worked on abdominal exercises
- Thoracolumbar Fascia: Architecture and Structure
- Overview and Morphologic aspects of the Abdominal Muscles
- Anatomy of the Vertebral Column
- Planes and Axis of Motion of the Spine
- Anatomy of the vertebrae with emphasis on the Lumbar spine
- Joints of the Vertebral Column
- Intervertebral Disc structure and Zygapophyseal Joint Structures
- Ligaments of the Vertebral Column

Topic 13: Abdominal: Kinesiology and Biomechanics

- Kinesiology considerations about the Abdominal Exercises
- Biomechanics of the Lumbar Spine
- Application of Biomechanics on Abdominal Exercises
- Machines and devices used for Abdominal Exercises: Myths and Truth
- Abdominal Exercises for fat Loss
- Kinesiology and Biomechanics Analysis from 45 abdominal exercises
- Abdominal exercises during pregnancy
- Specific Stretch Exercises

MODULE VII

Topic 14: Organization and administration of a gym

- Procedures for the gym's day to any operations
- Check list of gym rules and policies
- Check list for staff requirements
- Responsibilities of the staff
- The visual communication
- Guaranteed of quality
- Continuous improvement
- Check list for maintenance Clients file
- Check list for first-aid equipment
- Check list for overall gym preparedness
- Check list for staff preparedness
- Maintenance

Topic 15: The safety training

- Preparation of the physical structure of the weight training room
- Emergency preparedness
- Checklist for first-aid equipment

Topic 16: Questionnaires

- Physical Fitness Questionnaire
- Waist / Hip Ratio
- Risk factors
- Anthropometric evaluation
- Training program goals
- Test Par-Q & you
- Health Questionnaire
- Questionnaire for a training program