

<b>COURSE</b>	<b>FACULTY OF PHYSIOTHERAPY</b>
<b>PROGRAM</b>	<b>BACHELOR OF PHYSIOTHERAPY</b>
<b>SEMESTER</b>	<b>3</b>
<b>COURSE TITLE</b>	<b>ORTHOPEDECS (TRAUMATIC &amp; NON-TRAUMATIC)</b>
<b>COURSE CODE</b>	<b>17PT0305</b>
<b>COURSE CREDITS</b>	<b>4</b>

**Course Outcomes:** After completion of this course, student will be able to:

- 1 Understand the pathophysiology, clinical manifestations and conservative/surgical management of various traumatic, non-traumatic & infectious cases of the musculoskeletal conditions.
- 2 Able to gain the skill of clinical examination and interpretation of the preoperative cold cases and all the post-operative cases.
- 3 Able to read and interpret pathological/biochemical studies and radio imaging of orthopaedic conditions and able to correlate the findings with the clinical findings

**Pre-requisite of course:** Understand the pathophysiology, clinical manifestations and conservative/surgical management of various traumatic and cold cases of the musculoskeletal conditions, both operative and non-operative.

#### Teaching and Examination Scheme

<b>Theory Hours</b>	<b>Tutorial Hours</b>	<b>Practical Hours</b>	<b>ESE</b>	<b>IA</b>	<b>CSE</b>	<b>Viva</b>	<b>Term Work</b>
80	0	0	50	30	20	0	0

<b>Contents : Unit</b>	<b>Topics</b>	<b>Tutorial Hours</b>
1	<b>Introduction</b> Introduction: Fracture, Dislocation and injuries of the upper limb, Briefly mention general principles of orthopedic surgery, Definition and scope, Brief history.	4
2	<b>Fracture &amp; dislocations</b> Fracture & dislocations: Causes, Types, Mechanisms, Displacement, General symptoms, Healing, Principles of treatment, Complications, Malunion, Delayed union, Non-union, Myositis Ossificans, Volkmann's ischemic contracture, Fat embolism, Sudeck's osteodystrophy.	4
3	<b>Injuries to the hand</b> Injuries to the hand: Types (open, closed), Principles of treatment, Injuries to the phalanges, Sprains, Dislocations of MP & IP joints, Fractures of the phalanges, Metacarpals, Bennet's fracture, Mallet's finger, Tendon injuries (flexor & extensor).	4
4	<b>Wrist &amp; Forearm injuries</b> Wrist & Forearm injuries: Wrist dislocation, Colle's fracture, Displaced epiphysis, Smith's fracture, Barton's fracture, Injuries to carpal, Scaphoid and sprains, Fractures of forearm bones – greenstick fracture. Infracoracoid injury, Galeazzi, Monteggia fracture dislocation.	4

5	<b>Injuries to the elbow</b> Injuries to the elbow: Traumatic synovitis, Sprain, Dislocation of the elbow joint.	4
6	<b>Fractures involving elbow joint</b> Fractures involving elbow joint: Supracondylar fracture, Intercondylar fracture, Fracture medial epicondyle, Fracture of the lateral condyle, Myositis ossificans, Volkmann's Ischemic Contracture, Fracture of the head of the radius, Fracture of Olecranon.	4
7	<b>Injuries of shoulder and arm</b> Injuries of shoulder and arm: Fractures of the proximal end, Neck and shaft of humerus, Fractures of clavicle, Acromioclavicular and sternoclavicular dislocations, Fractures of the scapula.	4
8	<b>Injuries of the spine and thoracic cage</b> Injuries of the spine and thoracic cage: Injuries to the cervical spine (Both upper and lower), atlantoaxial injuries, Dorso Lumbar spine: classification, mechanism and types of injuries, stable fracture without paraplegia, fracture-dislocation with paraplegia, management of fracture, management of paraplegia, bedsores and bladder care. Fracture of rib and sternum.	4
9	<b>Injuries of the pelvis</b> Injuries of the pelvis: Fractures, Mechanism, Classification, Management, Fractures of Acetabulum, Sacrum and coccyx.	4
10	<b>Injuries of the lower limb</b> Injuries of the lower limb: Dislocations of the hip joint, interic fractures of femur, Fractures of the neck of femur, Intracapsular and trochanteric fractures of femur, Fracture of the shaft of the femur, Fracture femur in children Fracture of femoral condyles, Tibial condyles and patella. Injuries to extensor mechanism, Contusion, Hemarthrosis, Knee joint dislocation and traumatic dislocation of the patella, Fracture and fracture-dislocation of the ankle, Epiphyseal injury lower end of tibia Foot fracture of talus, Calcaneum, Metatarsals and phalanges.	4
11	<b>Soft tissue injuries</b> Soft tissue injuries: Ligamentous injuries of ankle, knee and injury to Muscles. Orthopedic splints and appliances for injuries to muscles and tendons.	4
12	<b>Tendon transfer</b> Tendon transfer: Principles, Indications, Common tendon transfer surgeries.	4
13	<b>Amputation</b> Amputation: Types, Site, Ideal stump, Complications, General principles of treatment Upper extremity and lower extremity amputations – prosthesis and prosthetic service, Principles of operative management, Indications and contraindications for arthroplasty, Osteotomy, Arthrodesis, Spinal stabilization, Arthroscopy.	4
14	<b>Limb reattachment</b> Limb reattachment: Principles, Indications, Technique.	4
15	<b>General Orthopedics</b> General Orthopedics: Clinical examination of an orthopedic patient, investigation, radiological and imaging techniques (salient features), Deformities, acquired deformities, causes and principles of management, splinting, Traction: procedures, materials, Preventive orthopedics, Geriatric orthopedics	3
16	<b>Congenital disorders</b> Congenital disorders: Torticollis, wry neck, kyphosis, lordosis,	3

	scoliosis, spina bifida, myelomeningocele, congenital dislocation of the hip, congenital genu recurvatum, talipes equinovarus , Elevation of scapula, Madelung's deformity, coxa vara, Endocranialdystosis, superior radio-ulna dysostosis, sternocleidomastoid tumor.	
17	<b>Infection of bones &amp; joints</b> Infection of bones & joints: Osteomyelitis (acute and chronic), Brody's abscess as a complication of open fracture, Skeletal tuberculosis, principles of treatment, T.B. of the shoulder, elbow and wrist T.B. of hip, knee ankle, and foot, Dactylitis, caries rib.	3
18	<b>Arthritis</b> Arthritis: Osteoarthritis, Rheumatoid arthritis, A.S, Gouty arthritis, acute pyogenic arthritis, septic arthritis of infancy, smallpox arthritis, Syphilitic infection of joint.	3
19	<b>Bone tumors</b> Bone tumors: Classification, true bone tumors- osteosarcoma, giant cell tumor, Ewing's sarcoma, chondroblastoma, chondrosarcoma, fibrosarcoma, lymphoma of bone, plasmacytoma, Bone metastasis: synovial sarcoma, hemangioma of bone, adamantinoma of long bones and chondroma, Tumor like lesions: osteoid osteoma, benign osteoblastoma, non-osteogenic fibroma, osteoma, osteochondroma and enchondroma.	3
20	<b>Neurological and Muscular disorders</b> Neurological and Muscular disorders: Definition, causes, clinical feature, complications, management (Multidisciplinary approach) medical and surgical of the following conditions: Cerebral palsy, Poliomyelitis, Leprosy, Muscular dystrophy – types and treatment, Injuries to plexus and nerves: Radial, Ulnar, Median, Brachial plexus, Sciatic and Lateral Popliteal.	3
21	<b>Regional conditions of Spine and Lower limb</b> Regional conditions of Spine and Lower limb: Back: Kyphosis, Scoliosis, Spondylolisthesis, Lumbosacral strain, intervertebral disc prolapse, fibrositis back, Lumbar canal stenosis, sacroiliac strain, spondylosis, spondylolysis , Hip: Slipped capital femoral epiphysis, idiopathic chondrolysis of the hip, Knee: Genu valgum, genu varum, tibia varum, genu recurvatum, quadriceps fibrosis, recurrent dislocation of patella, bursa around the knee, loose bodies in the knee, chondromalacia patella, Plica syndrome, Hoffa's pad syndrome, Foot: Painful heel (calcaneal spur) Plantar fasciitis, Posterior heel pain, flat foot, foot strain, pain in the forefoot, Hallux valgus, anterior metatarsalgia, tarsal tunnel syndrome, Morton's neuroma.	3
22	<b>Regional conditions of Neck and Upper limb</b> Regional conditions of Neck and Upper limb: Neck: Cervical spondylosis, intervertebral disc prolapses, Cervical rib, torticollis, Brachialgia, Shoulder: Supraspinatus tendinitis, calcification, rupture of the rotator cuff, peri-arthritis shoulder, deltoid fibrosis, subarachnoid bursitis, Bicipital tendinitis, Elbow: Tennis elbow, Golfer's elbow, recurrent slipping of ulnar nerve, cubitus varus and Valgus , Wrist and Hand: Ganglion, De Quervain's disease, trigger finger, trigger thumb, carpal tunnel syndrome and Dupuytren's contracture, Miscellaneous: metabolic disease, rickets, osteomalacia, osteoporosis, parathyroid osteodystrophy, scurvy etc.	3
<b>Total Hours</b>		<b>80</b>

**References:**

- 1 Essential Orthopaedics, Maheshwari

- 2 Essential Orthopaedics for Physiotherapist, John Ebnezar
- 3 Clinical Orthopaedic rehabilitation, S Bent Brotzman