

Department of Physiotherapy
Era University, Lucknow
Course Outline
Effective From: 2025-26

Name of the Program	BPT			Year/ Semester:	3 rd Year/6 th Semester
Course Name	Regional Neurology and Neurosurgery	Course Code:	BPT 607 BPP 607	Type:	Theory + Practical
Credits	06 (04 Theory+ 02 Practical)			Total Sessions Hours:	80 Hours
Evaluation Spread	Internal Continuous Assessment:	30 Marks		End Term Exam:	70 Marks
Type of Course	Compulsory	• Core		Creative	Life Skills
Course Objectives	To prepare the students well to use exercise therapy as a valuable tool in the rehabilitation and management of patients with a wide range of conditions.				
Course Outcomes (CO): After the successful course completion, learners will develop following attributes:					
CO1	Explain the anatomy, physiology, pathophysiology, etiology, and classification of disorders affecting the brain, spinal cord, peripheral nerves, neuromuscular junction, and muscles.				
CO2	Identify and interpret clinical signs and symptoms of major neurological conditions, including spinal cord disorders, brain and spinal tumors, infections, motor neuron diseases, and pediatric neurological disorders.				
CO3	Demonstrate proficiency in neurological assessment , including subjective evaluation, motor and sensory examination, gait, balance, coordination, and reflex testing.				
CO4	Analyze and interpret diagnostic investigations such as CT, MRI, EEG, NCV, EMG, CSF, and laboratory findings for accurate neurological diagnosis and differential diagnosis.				
CO5	Describe the principles of medical, surgical, and neurosurgical management , including indications, procedures, complications, and post-surgical considerations in neurological disorders.				
CO6	Apply neurological knowledge to clinical decision-making, documentation, and interdisciplinary management , with emphasis on functional implications, complications, and rehabilitation planning.				
Pedagogy	Interactive, discussion-bases, student-centered, presentation.				
Internal Evaluation Mode	<ol style="list-style-type: none"> 1. Attendance: 2. Project/Assignment 3. Class Participation 4. Presentations 5. Bedside Behavior 6. Written Exam: 				
Session Details	Topic			Hours	Mapped CO
UNIT 1	Central Nervous System Disorders: (Core concepts: Brain & spinal cord pathology, central neurodegeneration, demyelination, tumors, and infections)			30	CO1 CO2 CO3

	<ul style="list-style-type: none"> • Spinal Cord Disorders (SCI, myelitis, syringomyelia, spina bifida, hereditary spastic paraplegia, conus medullaris syndrome, bladder & bowel dysfunction, radiation myelopathy, sarcoidosis) • Brain Tumors and Spinal Tumors (Classification, clinical features, investigations, medical & surgical management) • Infections of Brain and Spinal Cord (Meningitis, encephalitis, poliomyelitis, post-polio syndrome, septic encephalopathy, AIDS, tetanus, brucellosis, etc.) • Multiple Sclerosis • Motor Neuron Diseases (ALS, SMA, hereditary bulbar palsy, neuromyotonia) 		CO4 CO5 CO6
UNIT 2	<p>Peripheral Neuromuscular Disorders: (Core concepts: Peripheral nerve, neuromuscular junction, muscle pathology, and electrodiagnostics)</p> <ul style="list-style-type: none"> • Disorders of Neuromuscular Junction (Myasthenia gravis, Eaton–Lambert syndrome, botulism) • Muscle Diseases (Muscular dystrophy, myotonic dystrophy, myopathies, non-dystrophic myotonia, muscle biopsy, genetic counseling) • Polyneuropathy (GBS, CIDP, hereditary neuropathies, amyloid neuropathy, nerve biopsy) • Focal Peripheral Neuropathy (Plexopathies, individual nerve palsies, nerve tumors, RSD) 	10	CO1 CO2 CO3 CO4 CO5
UNIT 3	<p>Special Neurology, Spine & Applied Neurosciences: (Core concepts: Developmental, toxic, surgical, spinal, and applied clinical neurology)</p> <ul style="list-style-type: none"> • Pediatric Neurology (Cerebral palsy, hydrocephalus, autism, genetic and congenital disorders) • Toxic, Metabolic & Environmental Neurological Disorders (Encephalopathy, alcohol & drug toxicity, metal & pesticide poisoning, environmental insults) • Disorders of Spine (Scoliosis, kyphoscoliosis, spinal trauma, PIVD, spinal infections) • Introduction to Neurosurgical Procedures (Craniotomy, shunting, DBS, laminectomy, aneurysm surgeries, post-polio residual paralysis) • Practical & Applied Neurology <ul style="list-style-type: none"> ○ Neurological assessment ○ CT/MRI, EEG, NCV/EMG interpretation ○ Laboratory & CSF interpretation ○ Documentation and clinical reasoning 	20	CO2 CO3 CO4 CO5 CO6
PRACTICAL:			20 Hrs
1. Neurological subjective assessment in detail (Demographic data, Chief complain,History)			

2. Neurological Objective assessment in detail(Gait,Balance, Coordination)
3. Sensory Examination in detail (Dermatome, Superficial and deep sensation, Stereognosis, Graphesthesia, two point discrimination, position sense)
4. Motor Examination (Muscle bulk, Muscle power, Muscle tone, superficial and deep reflexes)
5. Brain CT and MRI image interpretation
6. EEG Interpretation
7. NCV interpretation
8. EMG interpretation
9. Interpretation of laboratory findings (Blood, CSF)
10. Documentation of subjective and objective findings for different neurological and neurosurgical cases.

CO-PO and PSO Mapping

CO	PO 1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	1	2	-	-	-	-	-	-	-	2
CO2	1	2	2	-	-	-	-	-	-	1
CO3	1	1	2	-	-	-	-	-	2	1
CO4	1	2	-	2	1	-	-	-	-	1
CO5	1	2	-	1	2	2	-	-	-	2
CO6	1	1	1	1	2	1	2	-	1	1

Strong contribution-3, Average contribution-2, Low contribution-1,

Suggested Readings:

Text- Books	1. Neurology and Neurosurgery illustrated -Lindsay
Reference Books	1. Principles of Neurology- Adams and Victor 2. Kendall's Muscles: Testing and Function, With Posture and Pain: Vincent M. Conroy (Author), Jr. Murray, Brian N. Lippincott Williams & Wilkins; 6th edition

Recapitulation & Examination Pattern

Internal Continuous Assessment:

Component	Marks	Pattern
Mid Semester	12	As per University Pattern
Class Test	04	
Class Presentation/Discipline	04	
Assignment/ Project	04	
Bedside Behavior	02	
Attendance	04	As per Policy
Total Marks	30	

Department of Physiotherapy
Era University, Lucknow
Course Outline
Effective From: 2025-26

Name of the Program	BPT			Year/ Semester:	3 th year/6 th Sem
Course Name	RESEARCH METHODOLOGY AND BIOSTATISTICS	Course Code:	BPT 606	Type:	Theory
Credits	04			Total Sessions Hours:	60 Hours
Evaluation Spread	Internal Continuous Assessment	30 Marks		End Term Exam:	70 Marks
Type of Course	Compulsory	• Core		Creative	Life Skills
Course Objectives	1. Incorporate evidence based practice into clinical decisions of patient care and Management.				
Course Outcomes (CO): After the successful course completion, learners will develop following attributes:					
CO1	Develop Research Skills				
CO2	Master Data Analysis				
CO3	Critically Evaluate Research				
CO4	Communicate Finding				
CO5	Apply Evidence-Based Practice				
Pedagogy	Interactive, discussion-bases, student-centered, presentation.				
Internal Evaluation Mode	1. Attendance: 2. Project/Assignment 3. Class Participation 4. Presentations 5. Bedside Behavior/Class discipline 6. Written Exam:				
Session Details	Topic			Hours	Mappe d CO
UNIT I	a. Introduction to Research methodology:			20	CO1
	a. Meaning of research, objectives of research, Motivation in research, Types of b. Research & research approaches, Research methods vs methodology, Criteria for good research.			20	CO2 CO3
	b. Research problem:				
	a. Statement of research problem, Statement of purpose and objectives of research problem, Necessity of defining the problem				
	c. Research design:				

	<p>a. Meaning of research design, Need for research design, Features for good design, Different research designs, Basic principles of research design.</p> <p>d. Measurement & scaling techniques:</p> <p>a. Measurement in research- Measurement scales</p> <p>b. sources of error in measurement</p> <p>c. Technique of developing measurement tools,</p> <p>d. Meaning of scaling, its classification, important scaling techniques.</p>		
UNIT II	<p>Methods of data collection & measures of central tendency</p> <p>a. Methods of data collection: Collection of primary data, collection data through questionnaires & schedules.</p> <p>b. Computer technology: Introduction to Computers, Computer Application</p> <p>BIOSTATISTICS</p> <p>Introduction: Meaning, definition, characteristics of statistics. Importance of the study of statistics, Branches of statistics, Statistics and health science, Parameters and Estimates, Variables and their types, Measurement scales.</p> <p>Tabulation of Data: Basic principles of graphical representation, Types of diagrams –histograms, frequency polygons, smooth frequency polygon, cumulative frequency curve, Normal probability curve.</p> <p>Measures of Central Tendency: Need for measures of central Tendency, Definition and calculation of Mean – ungrouped and grouped, interpretation and calculation of Median-ungrouped and grouped, Meaning and calculation of Mode, Geometric mean & Harmonic mean, Guidelines for the use of various measures of central tendency.</p>	20	CO2 CO3
UNIT III	<p>Probability and Standard Distributions and Analysis of variance & covariance</p> <p>Measures of Dispersion: Range, mean deviation, standard deviation & variance.</p> <p>Probability and Standard Distributions: Meaning of probability of standard distribution, the binominal distribution, the normal distribution, Divergence from normality – skewness, kurtosis.</p> <p>Correlation & regression: Significance, correlation coefficient, linear regression & regression equation.</p> <p>Testing of Hypotheses, Level of significance, Degrees of freedom.</p> <p>Chi-square test, test of Goodness of fit & student t-test.</p> <p>Analysis of variance & covariance: Analysis of variance (ANOVA), what is ANOVA? Basic principle of ANOVA, ANOVA technique, Analysis of Co variance (ANACOVA)</p>	20	CO2 CO3 CO4 CO5

	<p>Sampling: Definition, Types- simple, random, stratified, cluster and double sampling. Need for sampling - Criteria for good samples, Application of sampling in community, Procedures of sampling and sampling designs errors.</p>		
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CO-PO and PSO Mapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	-	2	-	-	3	-	-	-	3	1
CO2	-	2	-	-	1	-	-	-	3	1
CO3	-	2	-	-	1	-	-	-	3	1
CO4	-	2	-	-	-1	-	-	-	3	2
CO5	-	2	-	-	2	-	-	-	3	1

Strong contribution-3, Average contribution-2, Low contribution-1,

Suggested Readings:

Text- Books	1. Research Methodology by C. R. Kothari, New age international
Reference Books	1. Principles of Research Methodology: A Guide for Clinical Investigators, Phyllis G. Supino, Jeffrey S. Borer, Springer Nature; 1st edition
Para Text	<ul style="list-style-type: none"> • https://www.youtube.com/watch?v=jyv9paQDYy0&list=PLk3poRqYftlhDGto5oSxeNeFWHzajbVuA • https://www.youtube.com/watch?v=0dRtFDIb2Wk&list=PLQnNyE1lxfVIZp27Oorkl1uO5z8bJQVKD

Recapitulation & Examination Pattern

Internal Continuous Assessment:

Component	Marks	Pattern
Mid Semester	12	As per University Pattern
Class Test	04	
Class Presentation/Discipline	04	
Assignment/ Project	04	
Bedside Behavior	02	
Attendance	04	As per Policy
Total Marks	30	



Bachelor of Physiotherapy

Era University, Lucknow

Course Outline

Effective From:2025-26

Name of the Program	Bachelor of Physiotherapy			Year/Semester:	3rd year/6th sem
Course Name	PT in General Medical & Surgical condition	Course Code:	BPT- 602 BPP- 602	Type: 6th Sem	Theory/Practical
Credits	04+01			Total Sessions Hours:	80 Hours
Evaluation Spread	Internal Continuous Assessment:		30 Marks	End Term Exam:	70Marks
Type of Course	Compulsory	✓ Core		Creative	Life Skill
Course Objectives	Acquiring knowledge of rational of basic investigative approaches in medical system and surgical intervention				
Course Outcomes(CO): <i>After the successful course completion ,learners will develop following attributes:</i>					
CO1	Understand pathophysiological changes during antenatal, infectious and metabolic disorders with their PT management				
CO2	Understand pathophysiological changes during medical and surgical conditions with their PT management				
CO3	Understand pathophysiological changes in burn and oncology with their PT management				
CO4	Diagnosing condition from history taking, clinical evaluation and understanding the physiological changes during aging, diseases related to elderly people and their treatment				
CO5	Understand pathophysiological changes during skin conditions, ENT conditions and sexual dysfunction with their PT management				
Pedagogy	Interactive, discussion-based, student-centered, presentation.				
Internal Evaluation Mo	Mid-term Examination: 30 Marks Class test: 12 Marks Class participation or any other : 04 Marks Assignments/Project: 04 Marks Attendance: 04 Marks Class Presentation: 04 Bed Side behavior or Interaction in Class: 02				

Session Details	Topic	Hours	MappedCO
Unit1	PT management in Metabolic and deficiencies diseases Physiotherapy management in Oncology PT management in common conditions of skin PT management in AIDS PT management in inflammation, oedema and gangrene PT management in psychiatric conditions PT management in geriatric medicine	20	CO1 & CO4
Unit2	Physiotherapy in mother and childcare: antenatal and post-natal management. Applied yoga in obstetrics and gynecological conditions Complications common to all operations Abdominal incisions Physiotherapy in pre and post operative stages Operations on upper GIT Operations on large and small intestine Physiotherapy in dentistry Burn and its physiotherapy management, skin grafts, reconstructive surgeries: care of ulcers and wounds, care of surgical scars, U.V.R & other electrotherapeutics for healing of wounds, prevention of hyper granulated scar keloids, electrotherapeutic measure for relief of pain during mobilization of scar Physiotherapy intervention in management of medical , surgical and radiation oncology cases	20	CO1, CO2 & CO3
Unit 3	Physiotherapy in dermatology- documentation of assessment, treatment and follow up skin condition, UVR therapy in various skin condition, vitiligo, hair loss, pigmentation, infected wound ulcers, faradic foot bath for hyperhidrosis, massage maneuvers for cosmetic purposes of skin use of specific oil as medium care of anesthetic hand and foot, evaluation, planning and management of leprosy prescription ENT: sinusitis, otitis media, otosclerosis, labyrinthitis, mastoidectomy, chronic rhinitis, laryngectomy, pharyngo- layngectomy, facial palsy Sexual rehabilitation: Male and female sexual health issues post disability, role of physiotherapist in counselling about sexual health of patients with special needs, stroke and post ICU discharge patients. Erectile dysfunction and role of physiotherapy. Principles and techniques of pilates and allied therapeutics in sexual dysfunction Physiotherapy in peripheral vascular disease	20	CO5
Practical	Bedside case presentation and case discussion		

	Lab session consists of evaluation and assessment methods on student models, treatment techniques and practice session								20					
CO-POandPSOMapping														
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	3	1	3	3	3	1	2	1	-	-	-	-	-	-
CO3	3	3	3	3	3	1	3	1	-	-	-	-	-	-
CO4	2	3	3	2	2	1	3	-	-	-	-	-	-	-
CO4	1	1	3	3	1	-	3	1	-	-	-	-	-	-
CO5	1	1	1	-	3	-	2	-	-	-	-	-	-	-
<i>Strongcontribution-3, Averagecontribution-2, Lowcontribution-1,</i>														
SuggestedReadings:														
ReferenceBooks	<ol style="list-style-type: none"> 1. Davidson’s Principles and Practice of Medicine. 2. Harrison’s Internal Medicine. 3. Cash’s Text book of General Medicine and Surgical conditions for Physiotherapists 4. Physiotherapy in General Medical and Surgical conditions. By Megha Sandeep Seth 													
	https://www.youtube.com/watch?v=pt_MgB6t49g https://www.youtube.com/watch?v=EwAQL5R-0f4 https://www.youtube.com/watch?v=_of4GDi7x2k													
Recapitulation & Examination Pattern														
Internal Continuous Assessment:														
Component	Marks	Pattern												
Class test	12	Contains 01 long question. question carries 04Marks. 02 Short questions. Each question carries 02Marks 04 multiple choice questions. Each question carries 01Marks												
Class participation or any other	04	This to be made on activities and instruction given by subject teacher.												
Marks Assignments/Project:	04	Assignment to be made on topics and instruction given by subject teacher												
Class Presentation:	04	This to be made on topics and instruction given by subject teacher												
Bed Side behavior or Interaction in Class	02	This to be made on activities and instruction given by subject teacher.												
Attendance	04	As per policy												
Total Marks	30													

Bachelor of Physiotherapy

Era University, Lucknow

Course Outline

Effective From: 2025-26

Name of the Program	Bachelor of Physiotherapy			Year/Semester:	3rd year/6th sem
Course Name	Community Medicine-II	Course Code:	BPT 603	Type:	Theory
Credits	03			Total Sessions Hours:	45Hours
Evaluation Spread	Internal Continuous Assessment :	30 Marks		End Term Exam:	70Marks
Type of Course	Compulsory	✓ Core		Creative	Life Skill
Course Objectives	<ol style="list-style-type: none"> 1. The objective of this course is to prepare the students to function as community. 2. They should have a brief idea of the prevention at individual, National and International level for various health issues. 3. To make the students aware of environmental, social, financial, personal, occupational issues of the patients & to inculcate in the students the habit of considering the above aspects while rendering patient care. 				
Course Outcomes (CO): After the successful course completion, learners will develop following attributes:					
CO1	To understand the preventive medicine in obstetrics, pediatrics & geriatrics.				
CO2	To understand the nutrition & health.				
CO3	To understand the hospital waste management & occupational health.				
CO4	To understand the disaster management.				
CO5	The students will be able to understand mental health & learn about health education.				
Pedagogy	Interactive, discussion-bases, student-centered, presentation.				
Internal Evaluation Mode	Mid-term Examination: 30 Marks Class test: 12 Marks Class participation or any other : 04 Marks Assignments/Project: 04 Marks Attendance: 04 Marks Class Presentation: 04 Bed Side behavior or Interaction in Class: 02				
Session Details	Topic			Hours	Mapped CO
Unit1	Preventive Medicine in Obstetrics, Pediatric & Geriatrics <ol style="list-style-type: none"> 1. MCH problems, Antenatal, Intranatal & post natal care, Care of children, child health problems, rights of child & National policy for children, MCH services & indicators of MCH care, Social welfare programmes. 2. Nutrition & health: Classification of foods, nutritional 			15	CO1 & CO2

	profiles of principles foods, environment & health, Pollution control, Disposal of waste.		
Unit2	Hospital waste management & occupational health 1. Disaster management, Natural & man-made disasters. Disaster impact & response, relief phase, epidemiologic surveillance & disease control, nutrition, rehabilitation 2. Occupational health, occupational environment, hazards, diseases, prevention of occupational diseases.	15	CO3
Unit3	Mental Health & health education 1. Characteristics of mentally healthy person, types of mental illness, causes of mental ill health, prevention. Emphasis on community aspects of mental health, Role of physiotherapist in mental health problems. 2. Concept of health education, principles, practice of health education.	15	CO4 & CO5

CO-PO and PSO Mapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	3	3	2	1	3	-	-	3
CO2	3	2	2	3	3	-	3	2	-	2
CO3	3	3	2	3	2	-	2	-	-	2
CO4	3	2	2	3	1	-	3	1	2	2
CO5	3	3	3	3	-	-	3	1	1	3

Strongcontribution-3, Averagecontribution-2, Lowcontribution-1,

SuggestedReadings:

Text-Books	Textbook of Preventive & Social Medicine- Dr. J E Park
ParaText	Unit1: https://www.youtu.be/B3hJEtCQmRA?si=5NVQHKJnPqY-CqOW Unit2: https://youtu.be/gKSPSKiB9PEsi=aHiLglVr-PyHOYyM Unit3: https://youtu.be/8ALxkCybtY/si=alcFU8uBlaSx09k

Recapitulation&ExaminationPattern

InternalContinuousAssessment:

Component	Marks	Pattern
Class test	12	Contains 01 long question. question carries 04Marks. 02 Short questions. Each question carries 02Marks 04 multiple choice questions. Each question carries 01Marks
Class participation or any other	04	This to be made on activities and instruction given by subject teacher.
Marks Assignments/Project:	04	Assignment to be made on topics and instruction given by subject teacher
Class Presentation:	04	This to be made on topics and instruction given by subject teacher
Bed Side behavior or Interaction in Class	02	This to be made on activities and instruction given by subject teacher.
Attendance	04	As per policy
Total Marks	30	

Name of the Program	BPT			Year/Semester:	III year/ VI sem
Course Name	Regional Orthopaedics & Diagnostic Imaging	Course Code:	BPT 603/ BPP 603	Type:	Theory & Practical
Credits	4 + 1			Total Sessions Hours:	60 + 20 Hours
Evaluation Spread	Internal Continuous Assessment:	30 Marks		End Term Exam:	70 Marks
Type of Course	<input type="radio"/> Compulsory	<input checked="" type="radio"/> Core	<input type="radio"/> Elective	<input type="radio"/> Life Skill	
Course Objectives	<ol style="list-style-type: none"> 1. To understand common regional soft-tissue and periarticular disorders of upper and lower limbs. 2. To identify clinical features and basic assessment methods for regional musculoskeletal conditions. 3. To gain knowledge of infective, arthritic, syndromic, and spinal pathologies affecting the musculoskeletal system. 4. To understand pathomechanics and clinical presentation of cervical and lumbar spine disorders. 5. To introduce commonly used diagnostic imaging modalities in orthopaedics. 6. To develop basic clinico-radiological correlation skills for orthopaedic conditions. 				
Course Outcomes(CO): <i>After the successful course completion, learners will develop following attributes:</i>					
Course Outcome (CO)	Attributes				
CO1	Students will be able to identify and differentiate common regional musculoskeletal disorders.				
CO2	Students will be able to perform basic clinical assessment for soft-tissue and periarticular conditions.				
CO3	Students will be able to recognize signs and symptoms of infective and arthritic conditions.				
CO4	Students will be able to correlate spinal pathologies with clinical and functional findings.				
CO5	Students will be able to select appropriate imaging modalities for orthopaedic conditions.				
CO6	Students will be able to interpret basic imaging findings and correlate them with clinical presentation.				
Pedagogy	Interactive, discussion-bases, student-centered , presentation.				
Internal Evaluation Mode	Mid-term Examination: 30 Marks Class test: 12 Marks Class participation or any other : 04 Marks Assignments/Project: 04 Marks Attendance: 04 Marks Class Presentation: 04 marks Bed Side behavior or Interaction in Class: 02 marks				
Session Details	Topic			Hours	Mapped CO

Unit1	Shoulder: periarthritic shoulder (adhesive capsulitis), Rotator cuff tendinitis, Supraspinatus Tendinitis, Infraspinatus Tendinitis, Bicipital Tendinitis, Subacromial Bursitis. Elbow: Tennis Elbow, Golfer's Elbow, Olecranon Bursitis (student's elbow), Triceps Tendinitis. Wrist and Hand: De Quervain's Tenosynovitis, Ganglion, Trigger finger/ Thumb, Mallet Finger, Carpal Tunnel Syndrome, Dupuytren's Contracture. Pelvis and Hip: IT Band Syndrome, Piriformis Syndrome, Trochanteric Bursitis. Knee: Osteochondritis Dissecans, Prepatellar and Suprapatellar Bursitis, Popliteal Tendinitis, Patellar Tendinitis, Chondromalacia Patella, Plica Syndrome, Fat Pad Syndrome (Hoff's syndrome) Ankle and Foot: Ankle Sprains, Plantar Fasciitis/ Calcaneal Spur, Tarsal Tunnel Syndrome, Achilles Tendinitis, Metatarsalgia, Morton's Neuroma.	20 hrs	CO1 & CO2							
Unit 2	Infective Conditions: osteomyelitis (Acute/Chronic), Brodie's abscess, TB spine and major joints like shoulder, hip, knee, ankle, elbow etc. Arthritic Conditions: Pyogenic arthritis, Septic Arthritis, Syphilitic infection of joints. Syndrome: Cervico brachial syndrome, Thoracic outlet syndrome, Vertebro – basilar syndrome, Scalenus syndrome, Costoclavicular syndrome, Levator scapulae syndrome, Piriformis syndrome. Cervical and Lumbar Pathology: Prolapsed intervertebral disc (PID), Spinal Canal Stenosis, Spondylosis (cervical and lumbar), Spondylolysis, Spondylolisthesis, Lumbago/ Lumbosacral strain, Sacralisation, Lumbarisation, Coccydynia, Hemivertebra.	20 hrs	CO3 & CO4							
Unit 3	Introduction of types of imaging are most commonly use in orthopedics and traumatology X-ray- Indication, Contraindication, Advantages, Disadvantages, Common views for different joint, spine and bones, X-ray image reading, clinic-radiological correlation. CT-Scan – Indication, Contraindication, Advantages, Disadvantages, Types, image and report reading, clinic – radiological correlation. Color Doppler Ultrasound – Indication, Contraindication, Advantages, Disadvantages for musculoskeletal structure, Types, and report reading, clinic-radiological correlation. MRI- Indication, Contraindication, Advantages, Disadvantages, Types, image sequence, for spine knee and shoulder, image and report reading, clinic – radiological correlation. Bone Scan – Indication, Contraindication, Advantages, Disadvantages clinic radiological correlation PET Scan – Indication, Contraindication, clinic-radiological correlation BMD – Indication, Contraindication and reports correlation with physical findings.	20 hrs	CO5 & CO6							
PRACTICALS	Clinical examination of the shoulder joint Special tests for rotator cuff injuries Assessment of periarthritic shoulder (adhesive capsulitis) Clinical examination of the elbow joint Special tests for tennis elbow and golfer's elbow Assessment of wrist and hand disorders (CTS, De Quervain's, trigger finger) Examination of peripheral nerve entrapment syndromes of upper limb Clinical examination of the hip joint Assessment of IT band, piriformis, and trochanteric bursitis Clinical examination of the knee joint Special tests for patellofemoral disorders Assessment of knee tendinitis and bursitis Clinical examination of the ankle and foot Special tests for ankle sprain and Achilles tendinitis Assessment of foot disorders (plantar fasciitis, metatarsalgia, Morton's neuroma) Clinical examination of the cervical spine Clinical examination of the lumbar spine Demonstration and interpretation of common X-ray views of major joints and spine Basic MRI interpretation of spine, knee, and shoulder Clinico-radiological correlation of common orthopaedic conditions (case-based)	20 hrs.								
CO-PO Mapping										
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	2	1	-	-	2	1	-	2

CO2	3	2	2	1	-	-	2	1	-	2
CO3	3	2	2	1	-	-	2	1	-	2
CO4	3	2	2	1	-	-	2	1	-	2
CO5	3	2	2	1	-	-	2	1	-	2
CO6	3	2	2	1	-	-	2	1	-	2
Strong contribution-3, Average contribution-2, Low contribution-1,										
Suggested Readings:										
Text-Books	Essential Orthopaedics: Maheshwari Textbook of Orthopaedics: Kotwal and Natrajan Apley System of orthopedics and Fracture									
Reference Books	Essential Clinical Orthopaedics by John Ebenezer Outline of fracture: Adams									
Para Text	https://youtu.be/V-NDGbaOtUo https://youtu.be/LTdRnITVn0A https://youtu.be/pn-l7lwOw1s https://youtu.be/iY2FPilb_Uk https://youtu.be/JwbGHZZe-BQ https://youtu.be/zzmecn9bTtw									
Recapitulation & Examination Pattern										
Internal Continuous Assessment:										
Component	Marks	Pattern								
Class test	12	Contains 01 long question. question carries 04 marks 02 short questions. each question carries 02 marks 04 multiple choice questions. each question carries 01 marks								
Class participation or any other	04	This to be made on activities and instruction given by subject teacher								
Marks assignments/project	04	Assignment to be made on topics and instruction given by subject teacher								
Class presentation	04	This to be made on topics and instruction given by subject teacher								
Bed side behavior or interaction in class	02	This is to be made on activities and instruction given by subject teacher								
attendance	04	As per policy								
Total marks	30									

Bachelor of Physiotherapy
Era University, Lucknow
Course Outline
Effective From: 2025-26

Name of the Program	Bachelor of Physiotherapy			Year/ Semester:	3rd year/6th sem
Course Name	Sports Conditions	Course Code:	BPT-605 BPP-605	Type:	Theory+Practical
Credits	04+01			Total Sessions Hours:	80 hours
Evaluation Spread	Internal Continuous Assessment:	30 Marks		End Term Exam:	70 Marks
Type of Course	Compulsory	✓ Core		Creative	Life Skill
Course Objectives	Student will learn the principles, technique, and effects of different concepts of anatomy, physiology, pathology, pharmacology & radiology in the restoration of basic knowledge of sports and musculoskeletal injuries and also implementation of evidence based practical approach.				
Course Outcomes (CO): <i>After the successful course completion, learners will develop following attributes:</i>					
Course Outcome (CO)	Attributes				
CO1	Students will be able to understand treatment guidelines of different soft tissue injuries.				
CO2	Student will understand about mechanism of different soft tissue injuries.				
CO3	Student will acquire knowledge of conservative management of different sports injuries.				
CO4	Student will understand about mechanism and management of different lower limb soft tissue injuries.				
Pedagogy	Interactive, discussion-bases, student-centered, presentation.				
Internal Evaluation Mode	Mid-term Examination: 30 Marks Class test: 12 Marks Class participation or any other : 04 Marks Assignments/Project: 04 Marks Attendance: 04 Marks Class Presentation: 04 Bed Side behavior or Interaction in Class: 02				

Session Details	Topic	Hours	Mapped CO
Unit 1	<p>Fundamentals of Soft Tissue Injuries and Conventional & Modern Protocols</p> <p>Types of Soft Tissue Muscles, tendons, ligaments, bursae, fascia, skin & subcutaneous tissue</p> <p>Common Soft Tissue Injuries Sprain, strain, contusion, bursitis, Common muscle injuries in sports (quadriceps, hamstrings, calf, biceps, triceps)</p> <p>Terminology-Tendinitis, Tendinosis, Tendinopathy, tenosynovitis.</p> <p>Modern Protocols -RICE , PRICE ,POLICE,MEAT, LOVE & PEACE , NO HARM</p>	15	CO1
Unit 2	<p>Mechanism soft tissue injuries of the Head & face</p> <p>Head & face – maxillofacial injuries, helmet compression syndrome.</p>	5	CO2
Unit 3	<p>Mechanism soft tissue injuries of the upper limb-</p> <p>Shoulder: Adhesive capsulitis, rotator cuff tendinitis, supraspinatus/infraspinatus tendinitis, bicipital tendinitis, subacromial bursitis, scapular dyskinesis</p> <p>Elbow: Tennis elbow, golfer’s elbow, olecranon bursitis (student’s elbow), triceps tendinitis</p> <p>Wrist & Hand: Gamekeeper’s thumb, De Quervain’s tenosynovitis, trigger finger/thumb, mallet finger, carpal tunnel syndrome, Dupuytren’s contracture</p>	20	CO3
Unit 4	<p>Mechanism soft tissue injuries of the upper limb-</p> <p>Spine- PIVD, Kissing Spine</p> <p>Pelvis & Hip: IT band syndrome, piriformis syndrome, trochanteric bursitis.</p> <p>Knee: prepatellar & suprapatellar bursitis, popliteal tendinitis, patellofemoral pain syndrome, meniscal injuries, cruciate injuries, collateral ligament injuries, patellar tendinitis, chondromalacia patella, plica syndrome, fat pad syndrome (Hoffa’s syndrome)</p> <p>Ankle & Foot: Ankle sprains, shin splints, turf toe syndrome, plantar fasciitis/calcaneal spur, tarsal tunnel syndrome, Achilles tendinitis,</p> <p>Muscle Strains & Contusions: Quadriceps, hamstrings, calf, biceps, triceps, gluteal, deltoid</p>	20	CO4
Practical	<p>Evaluation of Physical Fitness.</p> <p>Musculoskeletal screening.</p> <p>Assessment of Upper & lower limb complex.</p> <p>Special Physical Test of Different sports injuries.</p> <p>Method of application of crepe bandaging for different sports injuries.</p>	20	

CO-PO Mapping										
CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	3	1	2	1		3	1	2
CO2	1	1	2	3	2	3	1		2	1
CO3	2			1		1		2	2	3
CO4			1		2		3		1	
<i>Strongcontribution-3, Averagecontribution-2, Lowcontribution-1,</i>										
Suggested Readings:										
Reference Books-										
1. Prentice, William E., Rehabilitation Techniques in Sports Medicine, St. Louis: McGraw Hill Publishing Company.										
2. Gray, Gary W., Lower Extremity Functional Profile, 1st Edition, Adrian, MI: Wynn Marketing.										
3. Prentice, W. "Therapeutic Modalities for Allied Health Professionals" McGraw Hill.										
4. Norkin & White: Measurement of Joint Motion - A Guide to Goniometry - F.A. Davis.										
5. Dvir: Isokinetics: Muscle Testing, Interpretation and Clinical Applications, W.B. Saunders.										
e-Learning Source:	1. https://www.researchgate.net/publication/278786039_'Shin_Splints'_-_Medial_Tibial_Stress_Syndrome_A_Review_of_the_Literature									
	2. https://www.researchgate.net/publication/7535422_Sports_massage_A_comprehensive_review									
	3. https://www.weber.edu/wsuiimages/employeewellness/Resistance%20Training.pdf									
Recapitulation & Examination Pattern										
Internal Continuous Assessment:										
Component	Marks	Pattern								
Class Test	12	Contains 01 long question. question carries 04 Marks. 02 Short questions. Each question carries 02 Marks 04 multiple choice questions. Each question carries 01 Marks								
Class participation or any other	04	This to be made on activities and instruction given by subject teacher.								
Marks Assignments/Project:	04	Assignment to be made on topics and instruction given by subject teacher								
Class Presentation:	04	This to be made on topics and instruction given by subject teacher								
Bed Side behavior or Interaction in Class	02	This to be made on activities and instruction given by subject teacher.								
Attendance	04	As per policy								
Total Marks	30									

Bachelor of Physiotherapy

Era University, Lucknow

Course Outline

Effective From: 2025-26

Name of the Program	Bachelor of Physiotherapy			Year/ Semester:	3rd year/6th sem
Course Name	General surgery	Course Code:	BPT- 601	Type:	Theory
Credits	04			Total Sessions Hours:	60 hours
Evaluation Spread	Internal Continuous Assessment :	30 Marks		End Term Exam:	70 Marks
Type of Course	Compulsory	✓ Core		Creative	Life Skill
Course Objectives	<ol style="list-style-type: none"> To understand the basic principles of general surgery, including etiology, pathophysiology, clinical features, and management of common surgical conditions. To develop skills in pre-operative and post-operative patient care, including assessment, monitoring, and rehabilitation. To acquire knowledge of common surgical procedures and emergencies, and understand the role of the multidisciplinary team in surgical management. To promote professional attitude and ethical practice, ensuring patient safety, infection control, and effective communication in surgical settings. 				
Course Outcomes (CO): <i>After the successful course completion, learners will develop following attributes:</i>					
CO1	Understand basic principles of surgery, including wound healing, sterilization, infection control, and pre-operative care.				
CO2	Identify common surgical conditions affecting different systems (gastrointestinal, hepatobiliary, urogenital, breast, thyroid, etc.) and understand their etiology and pathology.				
CO3	Describe clinical features, investigations, and management of common general surgical diseases and emergencies.				
CO4	Demonstrate knowledge of pre-operative and post-operative care, including complications and rehabilitation aspects.				
CO5	Apply surgical knowledge in clinical decision-making, referral, and multidisciplinary patient management.				
Pedagogy	Interactive, discussion-bases, student-centered, presentation.				
Internal Evaluation Mode	Mid-term Examination: 30 Marks Class test: 12 Marks Class participation or any other : 04 Marks Assignments/Project: 04 Marks Attendance: 04 Marks Class Presentation: 04 Bed Side behavior or Interaction in Class: 02				
Session Details	Topic			Hours	Mapped CO

Unit 1	Fluid electrolyte and acid base disturbances-diagnosis and management; Nutrition in the surgical patients; wound healing-basic process involved in wound repair, basic phases in the healing process, clinical management of wound, factors affecting wound bleeding during surgery, transfusion; Surgical infections; General post – operative complications and its management. Reasons for surgery; Types of anesthesia and its effects on the patient; Types of incisions; Clips Ligatures and sutures; General Thoracic procedures-radiological diagnostic procedure,Endoscopy-Types,Biopsy_ uses and types, Overview and drainage system and tubes used in surgery. Definitions, indications, incision, physiological changes and complications following common operations like cholecystectomy colostomy,ileostomy,gastrectomy,hernias appendicectomy,mastectomy,nephrectomy,prostatectomy.	20	CO1
Unit 2	Burn; definitions, classification ,causes ,prevention, pathological changes,complications,clinical features and management, skin grafts – types, grafting procedures, survival of skin graft, Flaps-types and uses of Flaps. ENT; Common problems of ear, otitis media,otosclerosis,functional achonis and deafness, management facial palsy classification, medical and surgical management of lower motor neuron types of facial palsy. Ophthalmology: ophthalmologic surgical conditions, refraction's, conjunctivitis, glaucoma, corneal ulcer, iritis, cataract, retinitis, detachment of retina, defects of extra-ocular muscles- surgical management. Surgical oncology-cancer-definitions, types, clinical manifestations of cancer, staging of cancer, surgical procedures involved in the management of cancer.	20	CO2 & CO4
Unit 3	Obstetrics and Gynecology: high risk pregnancy, prenatal and postnatal common complications, investigation and management. Prolapse of uterus and Vaagina.hysterectomy,D&C,D&E,pap smear, pelvic repair, caserian section,nephrectomy,hysterosalphyngography,dilatation and curettage, laproscopy,colposcopy,hysterectomy.carcinoma of female reproductive organs_ surgical management in brief, Mastectomy-Simple Radical Hysterectomy. Incontinence Diseases of arteries and veins	20	CO3, CO4 &CO5

CO-PO and PSO Mapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	3	3	3	3	2	1	2	3
CO2	3	2	3	3	3	2	3	2	2	2
CO3	3	2	3	2	2	2	3	-	-	3
CO4	3	1	2	3	2	-	2	-	2	2
CO5	1	-	3	2	1	3	2	1	2	3

Strong contribution-3, Average contribution-2, Low contribution-1,

Suggested Readings:

Text- Books Cash's Textbook of General Medical & Surgical Conditions for Physiotherapists (Patricia A. Downie/Joan E. Cash):
[Textbook of Physiotherapy in Surgical Conditions \(Pushpal/Mitra\):](#)

Reference Books	<u>Physiotherapy in General Surgery (Ahmed Emad):</u>	
Para Text	Unit 1: <u>https://www.youtube.com/watch?v=Q3cVCiraAgw</u> Unit 2: <u>https://www.youtube.com/watch?v=lbhfvUCgX1Y</u> Unit 3: <u>https://www.youtube.com/watch?v=nudDS0B9yD8</u>	
Recapitulation & Examination Pattern		
Internal Continuous Assessment:		
Component	Marks	Pattern
Class test	12	Contains 01 long question . Question carries 04Marks . 02 Short questions . Each question carries 02Marks 04 multiple choice questions . Each question carries 01Marks
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Marks Assignments/Project:	04	Assignment to be made on topics and instruction given by subject teacher
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Bed Side behavior or Interaction in Class	02	This to be made on activities and instruction given by subject teacher.
Attendance	04	As per policy
Total Marks	30	