Level 2000- Semester 1

Course No	**:** AH 2101
Course Title	**:** English and Communication Skills III
Credits	**:** 02
Prerequisite	**:** None
Compulsory / Optional	**:** Compulsory
Time Allocation	**:** Lectures-15hrs, Practicals-30hrs

Aims and / or objectives and / or Intending learning outcomes:

At the successful completion of the course, the students will be able to:

1. Write with accuracy to convey ideas clearly; write to communicate;
2. Communicate clearly in different situations;
3. Follow different accents of the language.

Course syllabus / Course Description

Language Development and Writing: The four main types of sentences, Different kinds of clauses, Expansion of sentence structures, Cause-effect relationship, Comparisons

Listening: Developing listening skills through audio/video based learning, Exposure to native and non- native speakers of English (different accents), TOEFL practice tests.

Reading: Practicing the reading skills (skimming, scanning, etc.) developed in AH 1101 and AH 1201 through activities such as, pre-reading (discussion through brain storming, puzzles, etc.), skimming and scanning, comprehension, vocabulary expansion related activities leading towards a final speech activity: presentation of a report, poster, etc., and Individual loud reading. Vocabulary: Vocabulary related to specific fields (law, business, politics, etc.), Fixed expressions: Everyday expressions, Idioms, Proverbs, etc.,

Speech: Mini-presentations based on Reading and Listening activities. Presenting reading reports.

Assessment	Percentage Mark / Percentage Mark Range
Continuous Assessment	40%
End Semester Examination	60%

* Credits are not calculated with final GPA evaluation

Course No.	**:** PT 2101
Course Title	**:** Bio Mechanics II
Credits	**:** 02
Prerequisite	**:** None
Compulsory / Optional	**:** Compulsory
Time Allocation	**:** Lectures-30hrs

Aims and / or objectives and / or Intending learning outcomes:

At the successful completion of the course ,Students should be able to,

1. describe the biomechanics of joints in the lower limb, vertebral column, thorax and chest wall and the tempero-mandibular joint
2. discuss and demonstrate different types of normal and abnormal gait patterns

Course syllabus / Course Description

Mechanics of Peripheral joints (Temperomandibular Joint, Thorax and chest wall, Hip, Knee, An Vertebral column, Therapeutic gymnasium, Analysis of Gait

Recommended references:

1) Cynthia C. N. Pamela K. L. Joint structure and function; 5th edition

Assessment	Percentage Mark / Percentage Mark Range
Continuous Assessment	20 %
End Semester Examination	80 %

Course No	**:** PT 2102
Course Title	**:** Physiotherapy Skills I
Credits	**:** 02
Prerequisite	**:** None
Compulsory / Optional	**:**Compulsory
Time Allocation	**:** Lectures-15hrs, Practicals-30 hrs

Aims and / or objectives and / or Intending learning outcomes:

At the successful completion of the course, the students will be able to:

1. explain the types of muscle contraction and their actions
2. assess ranges of motion in joints in the upper/lower limbs and spine
3. demonstrate types and techniques of application of suspension therapy
4. identify the different types of walking aids and wheel chairs and demonstrate various gait patterns with walking aids
5. explain principles and basic application of hydrotherapy

Course syllabus / Course Description

Mechanics of muscles, Types of muscles, Types of muscle contraction, Goniometry, Suspension Therapy, Walking aids and Wheel Chair, Hydrotherapy

Recommended Texts (if any):

- Clarkson H.M.; Gilewich G. B.; Musculoskeletal Assessment
- Hollis M.; Fletcher-cook P; Practical Exercise Therapy 4th edition
- Kisner C. Colby L.A. Therapeutic Exercise, 5th edition
- Measurement of Joint Motion – Cynthia C Norkin
- Lakshmi Narayan S. Text book of Therapeutic Exercises
- Clarkson H.M, Gilewich G.B, Musculoskeletal Assessment; joint ROM and manual muscle strength
- Jennifer A Pryor, Barbara A Webber, Physiotherapy for Respiratory and Cardiac Problems 2nd edition
- Cash's Text Book of Chest, Heart, Vascular Disorders for Physiotherapists

Assessment	Percentage Mark / Percentage Mark Range
Continuous Assessment	20 %
End Semester Examination	80 %

Course No.	**:** PT 2103
Course Title	**:** Electro Physical Agents in Physiotherapy II
Credits	**:** 03
Prerequisite	**:** None
Compulsory / Optional	**:** Compulsory
Time Allocation	**:** Lectures-15 hrs, Practical- 60 hrs

Aims and / or objectives and / or Intending learning outcomes:

At the successful completion of the course, Student will be able to,

1. Discuss the physics of the modalities
2. Identify the threats to the people engaged in the process of treatment
3. Select the appropriate modality for different pathological conditions
4. Apply the modalities safely and effectively to the pathological conditions

Course syllabus / Course Description

Low frequency (faradic current, galvanic current, Sinusoidal current & Diadynamic current, Ionization/Iontophoresis, Cathodal/Anodal galvanism, Micro current & Macro current, Types of Electrical stimulators, Trans-cutaneous Elecdtrical Nerve Stimulation (TENS), Electro-diagnosis (FG test, SD curve, NCV studies, EMG, Bio-feedback), Medium Frequency (Interferential therapy, Russian currents, Rebox type current), Electro- magnetic Spectrum, Short Wave Diathermy, Pulsed Electro-magnetic Energy, Micro Wave Diathermy, Ultra Sound
Infra-Red Radiation, Ultra Violet Radiation, LASER (Light amplification by the stimulated emission of radiation), Wax Therapy, Contrast Bath, Moist Heat, Whirl Pool bath, Cryotherapy. Shock wave therapy

Recommended Texts (if any):

- Low, J. and Reed, A. (2000) Electrotherapy Explained; 4th edition
- Forster and Palastanga; Clayton's Electrotherapy theory and Practice; 9th edition
- Starkey C.; Therapeutic Modalities; 3rd edition
- Singh J, Text book of Electrotherapy

Assessment	Percentage Mark / Percentage Mark Range
Continuous Assessment	20 %
End Semester Examination	80 %

Course No.	**:** PT 2104
Course Title	**:** Introduction to Applied Exercise Science
Credits	**:** 02
Prerequisite	**:** None
Compulsory/ Optional	**:** Compulsory
Time Allocation	**:** Lecture-15hrs, Practical-30hrs

Aims and / or objectives and / or Intending learning outcomes:

At the successful completion of the course, Student will be able to

1. discuss the physiological and psychological theories behind the exercise science
2. discuss the importance of exercise for individuals with and without health problems
3. demonstrate variety of outcome measures of physiological and psychological status
4. discuss the scientific rationale underpinning the exercise
5. design and evaluate exercise protocols for specific groups of people

Course syllabus / Course Description

Fitness for life, Warming up, Stretching and cooling down, Basic energy metabolism, cardio-respiratory response to exercise, interactions between energy systems and exercise, Woman and exercise, Cardio-respiratory endurance, Adaptation of muscles to exercise, Muscle development, Exercise in extreme environments, Cardio-respiratory adaptations to exercise, Exercise and coronary heart disease, diabetics and obesity, Exercise prescription for cardio-respiratory fitness, Aerobic dance, Exercises for children, youth, older adults, woman, Training for physical performance, Exercise/nutrition prescription for weight management, muscle strength/endurance/flexibility, Nutrition for sports, Body composition, Fitness walking, Swimming

Recommended Texts (if any) :

- Physical Education and study of Sports.5th edition Elsevier publishes.By Davis; Roscoe Bull
- C. Guyton, John E. Hall, TEXTBOOK of Medical Physiology, 11th edition
- Morehouse L.E, Miller A.T, Physiology of Exercises, 6th edition
- Wasseraman K, et al, Principles of Exercises Testing and Interpretation, 4th edition

Assessment	Percentage Mark / Percentage Mark Range
Continuous Assessment	20 %
End Semester Examination	80 %

Course No.	**:** PT 2105
Course Title	**:** Teaching in Physiotherapy
Credits	**:** 02
Prerequisite	**:** None
Compulsory / Optional	**:** Compulsory
Time Allocation	**:** Lectures-25hrs, Practicals -10hrs

Aims and / or objectives and / or Intending learning outcomes:

At the successful completion of the course, Student should be able to;

1. describe the philosophy of teaching.
2. formulat learning objectives.
3. describe methods of teaching according to the target group.
4. evaluate students in clinical and class room environments

Course syllabus / Course Description

Philosophy & psychological concepts related with teaching, domains of learning objectives & assessment procedures, methods of teaching according to the target groups, resources & environment, teach & evaluate in clinical & class room environment

Recommended references:

1) Teaching and Learning in Physical Therapy: From Classroom to Clinic by Margaret Plack and Maryanne Driscoll
2) Handbook of Teaching and Learning for Physical Therapists, by Gail M. Jensen and Elizabeth Mostrom

Assessment	Percentage Mark / Percentage Mark Range
Continuous Assessment	20%
End Semester Examination	80 %

Course No	**:** PT 2106
Course Title	**:** Physiotherapy in Community Based Rehabilitation
Credits	**:** 02
Prerequisite	**:** None
Compulsory / Optional	**:** Compulsory
Time Allocation	**:** Lectures-30 hrs

Aims and / or objectives and / or Intending learning outcomes:

At the successful completion of the course, the students will be able to:

1. describe what is community based rehabilitation
2. plan and manage rehabilitation programmes
3. practice in mobile community rehabilitation programmes
4. describe industrial health and ergonomics

Course syllabus / Course Description

Introduction to Community Based Rehabilitation; Rehabilitation/ community, Principles of Community Based Rehabilitation, Planning and management of CBR programmes, Disability and disability evaluation, National/district level rehabilitation programmes; role of Government in CB role of social work in CBR/ role of voluntary organizations in CBR, Role of Physiotherapy in CB Screening and rehabilitation of pediatric disorders in the community, Extension of services and mobile units, Vocational training in rehabilitation, Industrial health and Ergonomics

Recommended references:

1) Rehabilitation Medicine by Howard A Rusk.
2) Rehabilitation Medicine by Joel A De Lisa

Assessment	Percentage Mark / Percentage Mark Range
Continuous Assessment	20 %
End Semester Examination	80%

Level 2000- Semester 2

Course No	**:** AH 2201
Course Title	**:** English and Communication Skills IV
Credits	**:** 02
Prerequisite	**:** None
Compulsory / Optional	**:** Compulsory
Time Allocation	**:** Lectures-15hr, Practical-30hr

Aims and / or objectives and / or Intending learning outcomes:

At the successful completion of the course, the students will be able to:

1. write a comprehensive essay on a given topic;
2. write an article or a short account on an event or an incident;
3. read and understand a journal article in the medical field;
4. read a passage critically;
5. participate in discussions /debates and express ideas for and against a given position clearly;
6. write a summary of a long paragraph;
7. prepare a short presentation using multimedia.

Course syllabus / Course Description

Language Development and Writing: Development of writing skills–Transitional devices, paragraph building, process writing, reports such as nurse's reports etc., Listening: Developing listening skills through audio/video based learning, Exposure to native and non- native speakers of English (different accents), TOEFL practice tests. Reading: Reading comprehension activities leading towards a final speech activity: presentation of a report, poster, etc., and Individual loud reading. Homonyms, Synonyms, Acronyms, Homophones, Phrasal verbs, Varieties of English, Abbreviations. Speech: Presenting reports, Debates, Activities consolidated with parallel grammar, reading and listening lessons.(Note: All four language skills: Reading, Writing, Listening and Speaking are incorporated)

Assessment	Percentage Mark / Percentage Mark Range
Continuous Assessment	40%
End Semester Examination	60%

* Credits are not calculated with final GPA evaluation

Course No.	**:** PT 2201
Course Title	**:** Physiotherapy Skills II
Credits	**:** 04
Prerequisite	**:** None
Compulsory / Optional	**:** Compulsory
Time Allocation	**:** Lectures-18 hrs, Practical-84 hrs

Aims and / or objectives and / or Intending learning outcomes:

At the successful completion of the course, Student will be able to,

1. measure the strength of muscles
2. measure and evaluate limb length discrepancies and chest expansion
3. demonstrate the ability to practice different therapeutic applications in physiotherapy, such as- stretching, strengthening, proprioceptive neuromuscular facilitation, mobilization/ manipulation, relaxation techniques, massage, breathing exercises

Course syllabus / Course Description

Manual Muscle Testing (MMT) , Limb girth and chest expansion , Active exercise, Passive exercise , Stretching, Mobilization, Propreoceptive Neuro-muscular Facilitation (PNF), Massaging, Relaxation, Breathing Exercises, Postural Drainage, Frenkels' exercises, Autonomic drainage

Recommended Texts (if any):

- Hislop H. J.; Montgomery J; Muscle Testing; 8th edition
- Kisner C; Colby L; Therapeutic Exercise; 5th edition
- Gardiner; Therapeutic Exercise
- Porter S, Tidy's Physiotherapy, 15th edition
- Clarkson H.M, Gilewich G.B, Musculoskeletal Assessment; joint ROM and manual muscle strength
- Hengeveld E, Banks K, Wells P, Maitland's Peripheral Manipulation, 4th edition
- Lakshmi Narayan S. Text book of Therapeutic Exercises

Assessment	Percentage Mark / Percentage Mark Range
Continuous Assessment	20 %
End Semester Examination	80%

Course No.	**:** PT 2202
Course Title	**:** Musculoskeletal Physiotherapy I
Credits	**:** 03
Prerequisite	**:** None
Compulsory / Optional	**:** Compulsory
Time Allocation:	**:** Lectures-45hrs

Aims and/ or objectives and/ or Intending learning outcomes:

At the successful completion of the course, Student will be able to:

1. discuss the injuries to bones, muscles, ligaments and joints
2. discuss the pathological conditions that affect bones, muscles, ligaments & joints

3. explain basic medical and surgical management of orthopaedic conditions

Course syllabus / Course Description

Introduction, Traumatology, Fractures and Dislocations of Upper Limb, Fracture of Spine, Fractures and Dislocations of Lower Limb, Soft Tissue Injuries, Hand Injuries, Amputations, Traumatic Spinal Cord Injuries, Deformities, Congenital Deformities, Acquired Deformities, Disease of Bones and Joints, Inflammatory and Degenerative Conditions, Syndromes, Neuromuscular Disorders, Cervical and Lumbar Pathology, Orthopaedic Surgeries, Regional Conditions

Recommended Texts (if any) :

- Solomon L.; Warwick D. J.; Apley's Consice System of Orthopedics and Fractures; 10th edition
- Essentials of Orthopaedics & Applied Physiotherapy – Jayant Joshi

Assessment	Percentage Mark / Percentage Mark Range
Continuous Assessment	20 %
End Semester Examination	80%

Course No. : PT 2203
Course Title : Neurological Physiotherapy I
Credits : 03
Prerequisite : None

Compulsory / Optional : Compulsory

Time Allocation : Lectures-40hrs, Practicals-10hrs

Aims and / or objectives and / or Intending learning outcomes:

At the successful completion of the course, Student will be able to:

1. define terms that constitute the basic vocabulary pertaining to neurology
2. explain the concepts of neurophysiology
3. describe the clinical aspect of neurological disorders
4. explain basic medical and surgical management of neurological conditions

Course syllabus / Course Description

Basic Neurophysiology, Neurological Assessment, Deafness, vertigo, and imbalance, Lower cranial nerve paralysis – Aetiology, clinical features, investigations, and management of following disorders, Dysphagia, Cerebrovascular diseases, Head injury, Higher cortical, neuro psychological and neurobehavioral disorders, Movement disorders, Cerebellar and coordination disorders, Spinal cord disorders, Brain tumours and spinal tumours, Infections of brain and spinal cord, Motor neuron diseases, Multiple sclerosis, Disorders of neuromuscular junction, Muscle diseases, Polyneuropathy, Focal peripheral neuropathy, Paediatric neurology, Toxic, metabolic and environmental disorders, Introduction, Indications and Complications of following Neurosurgeries.

Recommended Texts (if any):

- Walker, B., Colledge, N.R., Ralston, S. and Penman, I. (2014). Davidson's Principles and Practice of Medicine. Elsevier, Churchill Livingstone.
- Ropper, A.H., Samuels M.A. and Klein, J. (2014). Adams and Victor's principles of neurology. New York : McGraw-Hill Education Medical.
- Kumar, P. and Clark, M. Kumar & Clark's Clinical Medicine. Elsevier, Saunders.
- Snell, R.S. Clinical Neuroanatomy. Lippincott. Williams and Wilkins.

- O' Sullivan, S.B. and Schmitz, T.J. Physical rehabilitation. E.A.Davis Company. Philadelphia.
- Dwnie, P.A. Cash's Textbook of Neurology for Physiotherapists. Jaypee brothers. Gopsons papers ltd, India.

Assessment	Percentage Mark / Percentage Mark Range
Continuous Assessment	20 %
End Semester Examination	80%

Course No	**:** PT 2204
Course Title	**:** Common Medical Obstetrics & Gynacological Conditions for Physiotherapist I
Credits	**:** 02
Prerequisite	**:** None
Compulsory / Optional	**:** Compulsory
Time Allocation	**:** Lectures-30hrs

Aims and / or objectives and / or Intending learning outcomes:

At the successful completion of the course, the students will be able to:

1. identify common medical and gynecological problems in relation to physiotherapy

Course syllabus / Course Description

Infections, Poisoning, Food and nutrition, Endocrine Diseases, Diseases of Blood, Diseases of digestive system, Diseases of Skin, ENT, Ophthalmology, Obstetrics and Gynaecology Conditions, Psychiatric disorders

Recommended Texts (if any) :

- Cash's Textbook of General Medical and Surgical Conditions for Physiotherapists
- Davidson's Principles and Practice of Medicine
- Harrison's Internal Medicine

Assessment	Percentage Mark / Percentage Mark Range
Continuous Assessment	20 %
End Semester Examination	80%

Course No	**:** PT 2205
Course Title	**:** Cardio-respiratory and general Surgical conditions for Physiotherapists I
Credits	**:** 03
Prerequisite	**:** None
Compulsory / Optional	**:** Compulsory
Time Allocation	**:** Lectures- 45 hrs

Aims and / or objectives and / or Intending learning outcomes:

At the successful completion of the course, the students will be able to:

1. identify common cardiac, respiratory, vascular and surgical conditions in relation to physiotherapy

course syllabus / course description

Reasons for surgery, Causes/ clinical presentation/ diagnosis and treatment of thoracic situations , Surgical oncology, Disorders of the chest wall, Lung and mediastinum, Disorders of the heart, Thoracic surgeries, Diseases of the arteries and veins, Definition/ indication/ incision, physiological changes and complications following common operations, Burns, Tendon transfer

Recommended Texts (if any) :

- Irwin S.; Tecklin J. S; Cardiopulmonary Physical Therapy; 3rd edition
- Thomson A.; Skinner A.; Tidy's Physiotherapy; 12th edition
- General Surgical Operations – by Kirk / Williamson
- Surgery by Nan
- Bailey and Love's – Short Practice of Surgery
- Chest Disease by Crofton and Douglas.

Assessment	Percentage Mark / Percentage Mark Range
Continuous Assessment	20 %
End Semester Examination	80%