



DEPARTMENT OF PHYSIOTHERAPY

Program Syllabus 2019-2020

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FIRST YEAR

TERM 1

GRD100 – First Year Seminar

Course Pre-Requisite: None	Course Co-Requisite: None
Credit Hours: P/F	Semester/AY: 1/Year 1
Contact Hours: 1	Course Coordinator: Dr. Alexandra Dimitri
Course Instructors: Abu Dhabi: Alexandra.dimitri@fchs.ac.ae Al Ain: Alexandra.dimitri@fchs.ac.ae	

Course Description

Advising involves both the development and communication of accurate information regarding degree programs, courses, resources, College policies and career opportunities intended to help students in attaining their educational goals. Academic advising, effectively delivered, can be a powerful influence on students' development and learning and, as such, can be a potent retention force on campus. (Crockett, 1996). FCHS first year seminar will provide guidance for students, influence their development, promote retention, build relationships within the College and identify services that can guide students clarify both their career and life goals. The seminar series are centred on instructional services that go beyond academic interests and thus we promote a caring attitude and helping students adjust to college life.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Understand how to achieve balance in academics, family, work, recreation and social activities.
2. Connect educational plan to your career goals.
3. Value general education requirements and how they help to achieve goals.
4. Value regular and continued advising as the student will proceed towards graduation.

Course Outline:

Week No.	Topic/Content	Teaching Method
1	Orientation and registration	Plenary session
2- 3	Study plans at FCHS Career Planning	Career options at FCHS
4	Campus resources, General Education, LRC, Support programs	
5 - 7	Student conduct and Transitioning to college	Student Roles & Responsibilities

8-9	Study Skills	Developing study plans
10	Time management	Academic goal setting
11 & 12	Communication Skills	FCHS student Communication Protocol
13	How to cope with stress and exams	Group work/exercises
14	Wrap Up	Overall Reflection and student evaluations

Course Assessment:

Assessment Method	Weightage	Week Due
Attendance	40%	All weeks
Participation	10%	All weeks
Portfolio	50%	Week 14
Total	100%	

Students will be submitting a portfolio at the end of the term: It will include the weekly activities in the class and the self-reflection journal. Failure to submit the portfolio will lead to an F in the course. In order to pass the course, students have to achieve a minimum of 70%.

Recommended Readings:

1. FCHS Student Handbook.
2. FCHS Student Advising guide.
3. Additional readings will be submitted weekly.

GRD111 – Anatomy and Physiology - A (Theory)

Course Pre-Requisite:	Course Co-Requisite: GRD112
Credit Hours: 3	Semester/AY: 1/Year 1
Contact Hours: 3	Course Coordinator: Dr. Fahmi Tarmoom
Course Instructors: Abu Dhabi: Dr. Fahmi Tarmoom (fahmi.tarmoom@fchs.ac.ae) Ms. Najwan Fares (najwan.fares@fchs.ac.ae) Al Ain: Dr. Samar Abdulkhalek (samar.abdulkhalek@fchs.ac.ae)	

Course Description

Anatomy and Physiology A Theory is the first of a two-course sequence. In this course, system-based approach is used to study the structure and function of human body including, tissues and organs. Emphasis is on understanding the mechanism for maintaining homeostasis and the use of anatomical terminology. Structural and functional concepts enforced each organ and organ systems. Topics include the study of tissues, the integumentary system, the musculoskeletal system, the nervous system and the endocrine system. Students are expected to utilize their reading to extend their depth of understanding, participate effectively in class, practice problem solving and critical analysis.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Comprehend the principles of homeostasis
2. Classify and compare the major tissue types in the body and know their location, structure and function
3. Describe and explain the structure and function of each major organ / organ system;
4. Demonstrate effective use of anatomical terminologies and sound knowledge of anatomical structures.
5. Explain the physiological basis for the most common disease states that affect each organ / organ system considered within the course.

Course Outline:

Week No.	Topic/Content	Teaching Method
1	Orientation & Introduction <ul style="list-style-type: none">• General introduction to the course	Instructor-Centered Approach

	<ul style="list-style-type: none"> • Distribution of course outline • Explanation of assessment criteria and student's responsibilities, <p>Introduction to the Human Body</p> <ul style="list-style-type: none"> • Organization of the body • Anatomical terms and body planes • Internal environment & homeostasis 	
2	<p>Tissue: The Living Fabric</p> <ul style="list-style-type: none"> • Development of different tissue • Epithelium, connectives, muscle and nervous tissues 	Instructor-Centered Approach & Student-Centered Approach (class participation and discussion)
3	<p>The Integumentary System</p> <ul style="list-style-type: none"> • Understanding the layers and cells of the skin • Factors contributing to skin colour • Structure and types of hair growth • Types of skin gland • Skin cancer and burns 	Instructor-Centered Approach & Student-Centered Approach (class participation and discussion)
4	<p>The Skeletal System</p> <ul style="list-style-type: none"> • Bones, • Skeletal Tissue and joints 	Instructor-Centered Approach & Student-Centered Approach (class participation and discussion)
5	<p>The Skeleton</p> <ul style="list-style-type: none"> • Skull and Cavity of Skull • The Vertebral Column • Thoracic Cage • Pectoral girdle and upper limb • Pelvic and lower limb 	Instructor-Centered Approach & Student-Centered Approach (class participation and discussion)
6	<p>Muscles and Muscle Tissue</p> <ul style="list-style-type: none"> • Types of muscles • Skeletal muscle and smooth muscles • The neuromuscular junction • Muscle mechanics 	Instructor-Centered Approach & Student-Centered Approach (class participation and discussion)
7	<p>The Muscular System</p> <ul style="list-style-type: none"> • Criteria used in naming muscles. • Major muscles of the human body (on a torso model, muscle chart, or diagram) - • Changes that occur in aging muscles 	Instructor-Centered Approach & Student-Centered Approach (class participation and discussion)
8	Midsemester Examination	
9	<p>Nervous System – Fundamentals</p> <ul style="list-style-type: none"> • Nervous tissue • Membrane potential • The synapse • Neurotransmitters/receptors & action potential 	Instructor-Centered Approach & Student-Centered Approach (class participation and discussion)
10	<p>The Central Nervous System</p> <ul style="list-style-type: none"> • Brain Anatomy and Protection (structure and Function); • How it processes sensory information 	Instructor-Centered Approach & Student-Centered Approach (class participation and discussion)

	<ul style="list-style-type: none"> Regions of the brain involved in planning and initiating motor responses Types of memory Processing and speaking language 	
11	The Autonomic Nervous System <ul style="list-style-type: none"> The Sympathetic Nervous System The Parasympathetic Nervous System Comparison between the two systems 	Instructor-Centered Approach & Student-Centered Approach (class participation and discussion)
12	The Peripheral Nervous <ul style="list-style-type: none"> Classification Dermatomes Reflexes Cranial Nerves (I-XII) 	Instructor-Centered Approach & Student-Centered Approach (class participation and discussion)
13	General Sensory Physiology <ul style="list-style-type: none"> Somatic senses Types of receptors Two points discrimination and lateralization Gate control theory 	Instructor-Centered Approach & Student-Centered Approach (class participation and discussion)
14	Special Senses <ul style="list-style-type: none"> Olfactory and Gustation The Eye - Vision The Ear - Hearing and Balance 	Instructor-Centered Approach & Student-Centered Approach (class participation and discussion)
15	The Endocrine System <ul style="list-style-type: none"> How hormones work The Hypothalamus & Pituitary Gland (structure and function) Other Endocrine Glands 	Instructor-Centered Approach & Student-Centered Approach (class participation and discussion)
16	Final Examination	

Course Assessment:

Assessment Method	Weightage	Week Due
Quizzes x 3	30%	4, 6 & 13
Midsemester Exam	30%	8
Final Exam	40%	16
Total	100%	

Required Textbooks and Recommended Readings:

Required Resources

1. Marieb, E.N., & Hoehn, K. (2016). Human anatomy and physiology. (10th ed.). San Francisco: Pearson.
2. Mosby's Dictionary of Medicine, Nursing & Health Sciences or Stedman's Medical Dictionary of medicine, nursing & health professionals. (2013) (9th ed.). St. Louis, Missouri: Elsevier/Mosby.

References:

1. Silverthorne, D. U. (2013). Human physiology: An integrated approach (8th ed.). Boston: Pearson.
2. Widmaier, E. P., Raff, H., & Starng, K. T. (2017). Vander's human physiology: The mechanisms of body function (14th ed.). New York: McGraw-Hill.
3. Tortora, G.J. and Derrickson, B. (2014). Principles of Anatomy and Physiology, 14th ed.

GRD112 – Anatomy and Physiology - A (Laboratory)

Course Pre-Requisite: None	Course Co-Requisite: GRD111
Credit Hours: 1	Semester/AY: 1/Year 1
Contact Hours: 2	Course Coordinator: Dr. Sheela Benedict
Course Instructors: Abu Dhabi: Dr. Fahmi Tarmoom (fahmi.tarmoom@fchs.ac.ae) Al Ain: Dr. Samar Abdulkhalek (samar.abdulkhalek@fchs.ac.ae)	

Course Description

The Anatomy and Physiology A Lab is the second course of A series. It consists of practical components of anatomy and physiology. The structure and function of the cells, tissues, organs and systems of the human body will be studied by laboratory experiments, inspection of human models, the Anatomage table, animal organ dissections and observation of histological slides.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Understand and demonstrate anatomical positions and planes
2. Identify and understand the function of all cell organelles
3. Visually differentiate between types of epithelial tissue, connective tissue, muscular and nervous tissue.
4. Understand the anatomy and physiology of the integumentary system
5. Identify the axial and appendicular bones of the human skeleton
6. Identify major muscles and study skeletomuscular interaction
7. Identify the major parts of the brain by dissection and correlate them with their function.
8. Understand the sensory system and special senses.
9. Understand the structure and function of the endocrine system.

Course Outline:

Week No.	Topic/Content	Teaching Method
1	Orientation and Introduction	General introduction to the course. Distribution of the course syllabus and explanation of the course outline, assessment and attendance policy. Distribution of a Practical Exercise on homeostasis,

	Introduction to the Human Body	anatomical terms and body planes.
2	The Human Body at the Cellular Level Plasma Membrane Cells and Membranes	Experiment: Osmosis in living RBCs Practical exercise on cell – organelles
3	Epithelial, connective, muscle and nervous tissue	Microscopy- Study the microanatomy of tissues using pre-stained tissue slides. Distribution of a Practical exercise on tissues
4	The Integumentary System	Identify the structures of the integumentary system on anatomical models. Practical exercise on the integumentary system
5	The Skeletal system	Identify all major bone, axial and appendicular, in a skeleton and by The Anatomage table
6	The skeleton	Practical session on the: Skull, Vertebral column, Thoracic cage, Pectoral girdle, Pelvic girdle, upper and lower limbs
7	Lab Exam 1	
8	Musculoskeletal system	Experiment: Dissection of a chicken wing to examine the bones, tendons, ligaments, cartilage and bone marrow. Observe the mechanical interaction of muscles with bones
9	The muscular system	Locate and identify the major muscles of the human body on a model and by using The Anatomage table
10	Nervous system: Fundamentals	Practical exercise on nervous tissue, membrane potential, the synapse, Neurotransmitters
11	Nervous system: Brain anatomy	Experiment: Dissection of a sheep brain to examine the surface and internal structures.

12	The nervous system	Identifying the cranial and spinal nerves using models and the Anatomage table Practical exercise on Sympathetic and Parasympathetic Nervous system.
13	Sensory Physiology	Experiment: Adaption of temperature receptors. Practical exercise on the sensory system
14	Special Senses	Experiment: Olfaction test Practical exercise on the special senses
15	The Endocrine System	Practical exercise on the endocrine system
16.	Lab Exam 2	

Course Assessment:

Assessment Method	Weightage	Week Due
Lab exam 1	40%	Week 7
Lab exam 2	40%	Week 16
Class participation	20%	Every week
Total	100%	

Required Textbooks and Recommended Readings:

Marieb EN., & Hoehn K. *Human Anatomy and Physiology*. 11th Edition, London, UK: Pearson.

PTY111 – Human Biosciences 1 – Musculoskeletal

Course Pre-Requisite: Nil	Course Co-Requisite: PTY121, PTY131
Credit Hours: 3	Semester/AY: 1/Year 1
Contact Hours: 3	Course Coordinator: Fahad Alanazi
Course Instructors: Abu Dhabi: Marian Gabor (marian.gabor@fchs.ac.ae) Al Ain: Fahad Alanazi (fahad.alanazi@fchs.ac.ae)	

Course Description

This course mainly comprises of the integrated content areas of anatomy, physiology, biomechanics and kinesiology. The first half of the course will deal with general concepts related to the above-mentioned areas as foundations for lower limb anatomy, biomechanics and kinesiology.

Objectives and detailed study points for each session of Human Biosciences 1 MSK will be supplied as lecture notes. The PTY11111 (MCR) Weekly Study Guide provides an outline of the objectives to be undertaken for each week. It also refers students to excellent resources for further enhancing the learning process.

Course Learning Outcomes

By the completion of this unit the student will be able to:

1. Familiarize common terminologies related to lower limb anatomical structures, physiological processes and pharmacological concepts related to musculoskeletal conditions.
2. Describe lower limb anatomical structures, joint functions and its interrelated movement principles.
3. Explain basic physiological processes underpinning concepts such as muscle contraction, nerve conduction, tissue healing, and exercise physiology.
4. Identify the anatomical structures of lower limb using multimedia anatomical models
5. Demonstrate understanding of application of principles of human biosciences to physiotherapy practice in musculoskeletal lower limb conditions.
6. Comply with department policies and procedures.
7. Recognize the importance of active and mutual learning with peers

Course Outline:

Week No.	Topic/Content	Teaching Method
1	Unit 1: Introduction to Human Biosciences Unit 2: General Anatomy	Lecture
2	Unit 3. Anatomy Anatomy of the gluteal region Anatomy of the hip and adjacent joints Unit 4. Physiology Histology of muscle and nerve Cell membrane dynamics	Lecture
3	Unit 5. Anatomy The Posterior Thigh. The Medial Thigh Unit 6. Physiology Tissue responses to injury	Lecture
4	Unit 7. Anatomy The Anterior Thigh Unit 8. Physiology The healing processes Resting membrane potential	Lecture
5	Unit 9. Anatomy The Knee joint Unit 10. Physiology Electrical signals in neurons Cell to cell communication in the nervous system Unit 11. Pharmacology Analgesics	Lecture
6	Unit 12. Anatomy The anterior and lateral leg The Posterior Leg Unit 13. Physiology Skeletal muscle metabolism Muscle fiber plasticity Mechanics of body movement	Lecture
7	Mid-semester revision week and OSCE	
8	Mid semester written exam week	
9	Unit 14. Anatomy The Posterior Leg Nerves	Lecture
10	Unit 15. Anatomy The Ankle and Intertarsal Joints Unit 16. Physiology Whole muscle contraction	Lecture
11	Unit 17. Anatomy The foot Unit 18. Physiology Smooth muscle	Lecture
12	Unit 19. Anatomy Integumentary system The foot: Applied anatomy, and kinesiology	Lecture
13	Unit 20. Physiology Wound Care & Rehabilitation Physiological basis of therapeutic massage Unit 21. Pharmacology Non-steroidal anti-inflammatory drugs	Lecture
14	End semester revision week	Lecture

15	OSCE examination for co-requisite PTY 13112	
16	AT2 Quiz AT3 End-semester Written Exam	

Course Assessment:

Summative Assessment Tasks	Weighting	Relevant LOs	Due Date
AT1 Midterm Written Exam	40%	1-5	Week 8
AT2 Quiz	20%	1-5	Week 16
AT3 End-semester Written Exam	40%	1-5	Week 16
Formative / Hurdle Tasks			
AT4 Professional Conduct	Hurdle	6-7	
AT5 Attendance Record	Hurdle	6	
TOTAL	100%		

Recommended Textbooks and Readings:

1. Moore, K. L. & Dalley, A. F. (2013). *Clinically oriented anatomy*. (7th ed) Philadelphia: Lippincott Williams & Wilkins.
2. Agur, A. M. R. and Dalley, A. F. (2012) *Grant's atlas of anatomy* (13th ed). Philadelphia: Lippincott Williams & Wilkins.
3. Eizenberg, N., Briggs, C., Adams, C. and Ahern, G. (2008). *An@tomedica: General Anatomy - Principles and Applications*, Melbourne: McGraw-Hill.
4. Netter F. H. (2014) *Atlas of human anatomy* (6th ed). Philadelphia: Saunders Elsevier.
5. Silverthorn, D.U. (2015) *Human Physiology: an integrated approach*. (7th Ed) San Francisco: Pearson Benjamin Cummings.

PTY121 – Physiotherapy Theory 1 – Musculoskeletal

Course Pre-Requisite: N/A	Course Co-Requisite: PTY111, PTY131
Credit Hours: 3	Semester/AY: 1/Year 1
Contact Hours: 3	Course Coordinator: Mrs. Dragana Djuric
Course Instructors: Abu Dhabi: Mrs. Dragana Djuric (dragana.djuric@fchs.ac.ae) Al Ain: Dr. Fahad Alanazi (fahad.alanazi@fchs.ac.ae)	

Course Description

This theoretical course provides learning opportunities in understanding of foundational concepts to the practice of physiotherapy. Two one and a half-hour lectures are scheduled each week on the theoretical concepts underlying the practice of physiotherapy. Content of this course initially explores fundamentals of lower limb conditions, assessment, therapeutic exercises and electrophysical agents.

Course Learning Outcomes

On completion of this unit it is expected that the student will be able to:

1. Discuss the principles of biomechanics and kinesiology to the assessment and management of lower limb conditions.
2. Describe the fundamentals of physiotherapy management including therapeutic exercises and electrophysical agents.
3. Explain the pathophysiological basis of common musculoskeletal lower limb conditions.
4. Explain relevant pharmacologic management of musculoskeletal lower limb conditions.
5. Demonstrate basic record keeping skills using the principles of documentation involving lower limb conditions.
6. Develop understanding of the need to respect peers and tutors.
7. Recognize the importance of effective communication and working with peers.

Course Outline:

Week No.	Topic/Content	Teaching Method
1	Course Induction: <ul style="list-style-type: none">- Course administration- Weekly schedule- Assessment tasks	Lecture

	- Required textbook Welcome to Physiotherapy	
2	Unit 1. Initial Physiotherapy Interview Unit 2. Principles of Physical Assessment	Lecture
3	Unit 3. Applied Anatomy and Kinesiology of the hip joint and pelvic girdle Unit 4. Hip pathologies Diagnosis and Management (1)	Lecture
4	Unit 5. Hip pathologies Diagnosis and Management (2) Unit 6. Principles of Exercise Prescription (1)	Lecture
5	Unit 7. Principles of Exercise Prescription (2) Unit 8. Principles of increasing Range Of Motion (2)	Lecture
6	Unit 9. Principles of Soft tissue healing Unit 10. Principles of Fracture management	Lecture
7	Mid-semester revision week, OSCE	Assessment
8	Mid-semester written exam week	
9	Unit 9. Applied Anatomy and Kinesiology of the knee joint Unit 10. Knee Pathologies: Diagnosis and Management (1)	Lecture
10	Unit 11. Knee Pathologies: Diagnosis and Management (2) Unit 12. An Introduction to Electro physical Agents, Cryotherapy	Lecture
11	Unit 13. Thermotherapy Unit 14. Introduction to Group exercise class	Lecture
12	Unit 15. Applied Anatomy and Kinesiology of the tibiofibular and talocrural joints Unit 16. Foot and ankle pathologies: Diagnosis and Management (1)	
13	Unit 17. Normal gait Unit 18. Analysing gait	Lecture

14	Unit 19. Exercise Diary (1) Unit 20 Exercise Diary (2)	Lecture
15	End semester revision week	
16	End semester written examination and OSCE	

Course Assessment:

Assessment Method	Weightage	Week Due
Midterm Written Examinations	40%	Week 7
Documentation	20%	Week 5 and Week 10
Final Written Examinations	40%	Week 16
Professional Conduct	Hurdle	
Attendance Record	Hurdle	
Total	100%	

Recommended Textbooks and Readings:

Required Readings:

1. Kisner, C. & Colby, L.A. (2017). *Therapeutic Exercise: Foundations and Techniques* (7th ed). Philadelphia: FA Davis.
2. Belanger, A. (2014). *Therapeutic Electrophysical Agents: Evidence-Based Practice* (3rd ed). Philadelphia: Lippincott Williams & Wilkins.
3. Magee, D.J. (2013). *Orthopaedic Physical Assessment* (6th ed). Missouri: Saunders Elsevier.
4. Clarkson, H. M. (2012). *Musculoskeletal assessment: Joint range of motion and manual muscle strength* (3rd ed.). Philadelphia: Lippincott Williams & Wilkins.

Recommended Readings:

1. Brukner, P. & Khan, K. (2019). *Clinical Sports Medicine: The Medicine of Exercise Vol. 2* (5th ed). Sydney: McGraw-Hill.
2. Brukner, P., Clarsen, B., Cook, J., Cools, A., Crossley, K., Hutchinson, M. ,,, Khan, K. (2016). *Clinical Sports Medicine: Injuries Vol. 1* (5th ed). Sydney: McGraw-Hill.
3. Levangie, P. & Norkin, C. (2011). *Joint structure and function: a comprehensive analysis* (5th ed). Philadelphia: F. A. Davis Company.
4. Cleland, J. (2005). *Orthopaedic clinical examination: An evidence-based approach for physical therapists*. Carlstadt, NJ, Icon Learning Systems.
5. McRae, R and Esser, M (2008). *Practical Fracture Treatment* (5th ed). Edinburgh: Elsevier Churchill Livingstone.

PTY131 – Physiotherapy Practical 1 – Musculoskeletal

Course Pre-Requisite: N/A	Course Co-Requisite: PTY111, PTY121
Credit Hours: 4	Semester/AY: 1/Year 1
Contact Hours: 8	Course Coordinator: Mrs. Dragana Djuric
Course Instructors: Abu Dhabi: Mrs. Dragana Djuric (dragana.djuric@fchs.ac.ae) Al Ain: Mrs. Malarkodi Rajendran (malarkodi.rajendran@fchs.ac.ae)	

Course Description

Students will learn in this practical course the surface anatomy of the pelvis and lower limb by indicating the key features of these regions and by palpating bones, joints, muscles and skin. The sessions include practice of assessment and treatment techniques in order to move the joints of the lower limb carefully and effectively. Students will therefore also learn how to determine normal and abnormal movements, muscle length and strength, pelvis and limb characteristics and function. In addition, the students will also learn to safely handle and apply electrophysical agents.

Course Learning Outcomes

On completion of this unit it is expected that the student will be able to:

1. Recall relevant structure and function for physiotherapy assessment and management.
2. Restate the underlying principles of physiotherapy assessment and management based on human biosciences.
3. Identify anatomical landmarks from surface anatomy of the lower limb.
4. Demonstrate subjective and objective evaluation of musculoskeletal lower limb conditions.
5. Develop skills for safe physiotherapy techniques including therapeutic exercises and electrophysical agents with appropriate manual handling for musculoskeletal lower limb conditions.
6. Develop understanding of the need to respect peers and tutors.
7. Recognize the importance of effective communication and working with peers.

Course Outline:

Week No.	Topic/Content	Teaching Method
1	Course induction <ul style="list-style-type: none">- Course administration- Weekly schedule- Assessment tasks- Practical Manual	Practical

	1.1. Introductory Anatomy practical 1.2. Introduction to the physiotherapy lab/ Responsibilities. Positioning and Handling another person	
2	2.1. Anatomy Practical: The gluteal region 2.2. Anatomy Practical: The hip and adjacent joints 2.3. Introduction to soft tissue mobilization and palpation 2.4. Management of swelling/ Health and wellbeing of the individual	Practical
3	3.1. Anatomy Practical: The posterior Thigh 3.2. Anatomy Practical: The Medial Thigh 3.3. Physical Examination of the hip joint (1) 3.4. Physical Examination of the hip joint (2)	Practical
4	4.1. Anatomy Practical: The anterior Thigh 4.2. Strength Assessment of the hip/Introduction to exercise prescription 4.3. Exercise for strength, function and endurance/Introduction to equipment for therapy 4.4. Skill Mastery with tutor	Practical
5	5.1. Anatomy Practical: The knee joint 5.2. Manual techniques for increasing muscle length and hip range of motion 5.3. Exercises for increasing muscle length and range of motion of the hip 5.4. Skill Mastery with tutor	Practical
6	6.1. Anatomy Practical: The anterior and lateral leg 6.2. Simulation case hip 1 6.3 Simulation case hip 2 6.4. Skill Mastery with tutor	Practical
7	Mid-semester revision week and OSCE	
8	Mid-semester written image exam week	

9	9.1 Anatomy Practical: The posterior leg 9.2 Physical examination of the knee 9.3. Manual treatment of the knee / Exercises to increase ROM of knee 9.4. Skill Mastery with tutor	Practical
10	10.1. Anatomy Practical: The ankle and intertarsal joints 10.2. Strength exercises for the knee / Introduction to gait aids 10.3. Sensory testing and practical applications of cold agent 10.4. Skill Mastery with tutor	Practical
11	11.1 Anatomy Practical: The foot 11.2. Practical application of thermotherapy 11.3. Clinical scenario 11.4 Skill Mastery with tutor	Practical
12	12.2. Physical examination of the ankle (1) 12.3. Physical examination of the ankle and foot (2). Treatment techniques of the ankle 12.4. Skill mastery with tutor	Practical
13	13.2. Examination of standing balance / Exercise for the ankle 13.3 Useful assessment procedures, diagnostic tests and exercise prescription for the lower limb 13.4 Skill Mastery with tutor	Practical
14	End semester revision week	Practical
15	OSCE examination	
16	End semester written image examination	

Course Assessment:

Assessment Method	Weightage	Week Due
Objective Structured Clinical Examination (OSCE) – Midterm	30%	Week 7
Written Image Exam – Midterm	15%	Week 7
Viva *	10%	Week 15
Objective Structured Clinical Examination (OSCE) – Finals	30%	Week 15
Written Image Exam – Finals	15%	Week 15
Professional Conduct	Hurdle	
Skills Mastery Checklist	Hurdle	
Attendance Record	Hurdle	
Total	100%	

*Could be converted to various assessment tasks (e.g. Group Exercise, Skills Assessment, Skills Testing, Reflective Writing, etc.).

Recommended Textbooks and Readings:

Required Readings:

1. Kisner, C. & Colby, L.A. (2017). *Therapeutic Exercise: Foundations and Techniques* (7th ed). Philadelphia: FA Davis.
2. Belanger, A. (2014). *Therapeutic Electrophysical Agents: Evidence-Based Practice* (3rd ed). Philadelphia: Lippincott Williams & Wilkins.
3. Magee, D.J. (2013). *Orthopaedic Physical Assessment* (6th ed). Missouri: Saunders Elsevier.
4. Clarkson, H. M. (2012). *Musculoskeletal assessment: Joint range of motion and manual muscle strength* (3rd ed.). Philadelphia: Lippincott Williams & Wilkins.

Recommended Readings:

1. Brukner, P. & Khan, K. (2019). *Clinical Sports Medicine: The Medicine of Exercise Vol. 2* (5th ed). Sydney: McGraw-Hill.
2. Brukner, P., Clarsen, B., Cook, J., Cools, A., Crossley, K., Hutchinson, M. ,,, Khan, K. (2016). *Clinical Sports Medicine: Injuries Vol. 1* (5th ed). Sydney: McGraw-Hill.
3. Levangie, P. & Norkin, C. (2011). *Joint structure and function: a comprehensive analysis* (5th ed). Philadelphia: F. A. Davis Company.
4. Cleland, J. (2005). *Orthopaedic clinical examination: An evidence-based approach for physical therapists*. Carlstadt, NJ, Icon Learning Systems.
5. McRae, R and Esser, M (2008). *Practical Fracture Treatment* (5th ed). Edinburgh: Elsevier Churchill Livingstone.

GRD161 – Academic Writing 1

Course Pre-Requisite: IELTS 5 / Emsat 1100 (pre-intermediate level or above)	Course Co-Requisite: n/a
Credit Hours: 2	Semester/AY: 1/Year 1
Contact Hours: 3 hours/week	Course Coordinator: Dr. Amina Gaye
Course Instructors: Abu Dhabi: Dr. Amina Gaye (Amina.Gaye@fchs.ac.ae) Al Ain: Diana Yaghmour (Diana.Yaghmour@fchs.ac.ae)	

Course Description

Academic Writing 1 is one of the General Education courses at FCHS. The course will provide students with the basic skills required to perform successfully in any academic degree taught in English. The course will introduce to basic writing skills including note-taking, conducting research, paraphrasing and summarizing or quoting. It will also introduce citations using APA style. The goal of this course is to enable students in becoming effective writers, capable of recognizing the challenges and opportunities of writing in different situations.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Listen, understand and take notes for various purposes in academia.
2. Use different reading strategies to decode and understand a variety of academic texts.
3. Effectively quote, summarize, paraphrase and synthesize college level-texts to avoid plagiarism.
4. Design and format a formal health science report through writing processes that include multiple drafts, peer response, and flexible strategies for generating, planning, revising, editing, and proofreading.
5. Recognize and employ standard academic grammar and syntax as well as appropriate means of documenting work using the APA style of referencing and citation.
6. Work effectively in a small group to create and present a basic formal academic presentation.

Course Outline:

Week No.	Topic/Content	Teaching Method
1	Orientation & General Introduction Being exposed to the content of the Course Guide <ul style="list-style-type: none"> General introduction to the course Distribution of Course Outline & workbooks, explanation of assessment, student's responsibilities, and attendance policy. 	Class Discussion led by the instructor
2	Module One: Academic Listening Skills Unit 1: Active Listening - Setting the purpose for listening: listening for main ideas, Listening for details, answering questions about a lecture to test comprehension, etc. - Active Listening Strategies Unit 2: Listening Note-taking Strategies - Completing lecture notes - Making notes for information/ explanations/ arguments	- Lecture - Tutorial (in-class activities: listening + note taking)
3	Module Two: Academic Reading Skills Unit 1: Purpose-based Reading Strategies - Different Types of academic text - Light-reading, scanning, skimming, intensive reading with a focus on identifying rhetorical strategies - Identifying the main and supporting points in a passage	- Lecture - Tutorial (in-class reading)
4	Unit 1: Purpose-based Reading Strategies (continued) - Annotation (highlighting key points and writing notes/comments in the margins of the text) Unit 2: Information Literacy/Finding Information - Evaluating Information Resources - Basic Searching using reliable sources - Identifying and Selecting Relevant Information	- Lecture - In-class activities - Information Literacy session with the librarian
5	Module Three: Academic Writing Skills 1 Unit 1: Referring to a source: Quoting, summarizing and paraphrasing - Recognize the reasons for quoting, paraphrasing and summarizing in academic contexts (avoiding plagiarism) - Distinguish between a paraphrase and a summary - Stages in writing a paraphrase - Stages in writing a summary	- Lecture - Tutorial (in-class reading + class discussion)
6	Unit 1: Quoting, Summarising and Paraphrasing - Connecting ideas in and between sentences/paragraphs - Introduction to Referencing (APA Style)	- In-class reading / writing - Lecture
7	Unit 2: Report Writing - Overview & Introduction - Structure of Reports <ul style="list-style-type: none"> Writing the introduction of your report 	- Lecture & Class Discussion - Group work to discuss topics

		- Library Search on topics
9	- Data Collection: <ul style="list-style-type: none"> Choosing your data collection method & designing the tools (questionnaire/ interview questions) 	- Lecture / Class Discussion - Discussion Groups - In-class writing
10	- Findings and Data Analysis: <ul style="list-style-type: none"> Analysing data Incorporating research findings into your writing - Findings and Visuals: <ul style="list-style-type: none"> Including appropriate visual aids in your report. 	- Lecture - Peer Review Session
11	- Conclusion & Abstract: <ul style="list-style-type: none"> Wrapping up your report with a very good conclusion Including an appropriate and brief abstract 	- Lecture & Class Discussion - Discussion Groups - In-class writing
12	- Citation & Referencing Using appropriate phrases to quote and cite sources	- Lecture - Peer Review Session
13	Module Four: Oral Communication Skills 1 Unit 1: Informative Oral Presentation - Getting Started - Organizing your material Unit 2: Getting Ready to Speak - Delivery - Body Language - Dealing with Questions and Answers	- Lecture / Class discussion
14	- Peer Review Session to check students' PPTs - Oral Presentations	- Peer Review Session (PPT Drafts) - Class Presentation
15	Oral Presentations (continued) + Revision	- Class Presentation - Revision Session

Course Assessment:

Assessment Method	Weightage	Week Due
Lecture Note-taking	10%	3
Midterm Exam (MCQs)	20%	8
Research Paper (Written Report with multiple drafts)	20%	13
Oral Presentation	15%	14-15
Final Exam (MCQs)	35%	16
Total	100%	

Required Textbooks and Recommended Readings:

1. Eickhoff, L. Fraizer, L & Vosters, M. (2018). *University Success Series (1st ed.)*.
Transition Level: GSE 68 - 80 (CEF B2+ - C1) Student Book with MyEnglishLab. New
Jersey: Pearson Education.
2. Tryka, L. Q. & Hess, D. (2009). *Simon & Schuster Handbook for Writers (9th ed.)*.
New Jersey: Pearson Education.

FIRST YEAR

TERM 2

GRD144 – Physics (Theory)

Course Pre-Requisite: None	Course Co-Requisite: GRD145
Credit Hours: 3	Semester/AY: 1/Year 2
Contact Hours: 3	Course Coordinator: Dr. Nadia Boutabba
Course Instructors: Abu Dhabi: Dr. Nadia Boutabba (Nadia.Boutabba@fchs.ac.ae) Al Ain: Mr. Abdullah Altal (Abdullah.Altal@fchs.ac.ae)	

Course Description

This course is designed to provide a basic understanding of Physics students wishing to continue their studies in the allied health fields. The course delivers important applications related to the health sector in which FCHS graduates will continue their career after graduation. The material includes: an introduction to physics and measurement units; atomic and nuclear structure; mechanics and Newton's laws of motion; work and energy; waves and sound; material properties, heat thermal properties, electricity and electric fields; DC and AC currents and voltages; magnetism; light, optics and human vision. The treatment is necessarily introductory.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. State the fundamental units, their abbreviations and explain the difference between fundamental and derived units.
2. Understand of the basic laws of Physics, including atomic and nuclear structure and to explain the production of X-rays and there use in the health sector, gravity and human body.
3. Demonstrate knowledge and understanding associated with the mechanics. Topics include Newton's Laws of Motion, Circular Motion, Energy, Work and conservation of energy and power, Simple Harmonic Motion, Waves, Superposition, Interference.

Health Applications:

- Centrifugal pumps used for health purposes / Artificial Heart,
- Flow rate & blood damage, Statics
- Analyse torque in the human skeleton and explain the functionality of the skeleton's joints.
- Health practices based on physical principles,
- Distinguish between systolic and diastolic heart pressure according to electrocardiogram,
- The use of ultrasounds in sonography and to have knowledge in proton therapy and Gamma ray imaging.
- Sound and Hearing explaining the pitch and the human vocal and hearing systems, different types of hearing loss, and understanding the Doppler effect and its health uses.

4. State and define the phenomena associated with bulk materials. Topics include Materials, Stress and Strain, Pressure and Density, Buoyancy, Fluid Dynamics, Applying continuity and Bernoulli's equations on blood flow.

Health Applications:

- Implementing material as replacements in some human body parts.
 - Explain the pressure in the skull, eye / glaucoma, and their consequences, human skeleton and their changes.
 - Pressure Effects While Diving, Fluids and Transport, Blood Viscosity and its parameters that affect blood flow.
 - Stating and identifying Fick's Law, Hyperbaric Oxygen Therapy (HBOT) / Mechanism & Advantages.
5. Present descriptive explanations about the principles and concepts of Thermodynamics. Topics include Heat and Temperature, Ideal Gas Law, Van Der Waals equation and Heat Transfer.

Health Applications:

- The breathing system in the human body.
 - Phase and Temperature Change, Thermodynamics of the Human Body and the body responses and changes according to temperature change
6. Describe the principles and concept related to Electricity and Magnetism. Topics include Electric Fields and Forces, Electric Potential Energy, DC Circuits and Currents, AC Circuits and Magnetism field.

Health Applications:

- Magnetic Resonance Imaging (MRI).
 - Catheters and drug delivery system.
 - Explain the nerve signals in the human body.
7. Define and explain the functions and laws related to Optics with the Nature of Light, Geometrical Optics, Thin lenses Wave Optics, light interaction with matter.

Health Applications:

- The Human Eye and Vision,
- Laser eye Surgery (Lasik).

Course Outline:

Week No.	Topic/Content	Teaching Method
1	Orientation & Introduction Lecture 1: Introduction to Physics & SI Units Lecture 2: Atomic and Nuclear Structure.	<ul style="list-style-type: none"> ▪ Faculty Presentation ▪ Students participation ▪ Tutorials
2	Lecture 3: Classical Kinematics. Lecture 4: Newton's Laws of Motion.	<ul style="list-style-type: none"> ▪ Faculty Presentation ▪ Students participation ▪ Tutorials

3	Lecture 5: Circular Motion and Statics Lecture 6: Energy and Work	<ul style="list-style-type: none"> ▪ Faculty Presentation ▪ Students participation ▪ Tutorials
4	Lecture 7: Conservation of Energy and Power Lecture 8: Simple Harmonic Motion.	<ul style="list-style-type: none"> ▪ Faculty Presentation ▪ Students participation ▪ Tutorials
5	Lecture 9: Waves, Superposition & Interference Lecture 10: Sound and Hearing.	<ul style="list-style-type: none"> ▪ Faculty Presentation ▪ Students participation ▪ Tutorials
6	Lecture 11: Materials, Stress and Strain. Lecture 12: Pressure and Density.	<ul style="list-style-type: none"> ▪ Faculty Presentation ▪ Students participation ▪ Tutorials
7	Lecture 11: Materials, Stress and Strain. Lecture 12: Pressure and Density.	<ul style="list-style-type: none"> ▪ Faculty Presentation ▪ Students participation ▪ Tutorials
9	Lecture 11: Materials, Stress and Strain. Lecture 12: Pressure and Density.	<ul style="list-style-type: none"> ▪ Faculty Presentation ▪ Students participation ▪ Tutorials
10	Lecture 15 and 16: Heat and Temperature and Ideal gas law.	<ul style="list-style-type: none"> ▪ Faculty Presentation ▪ Students participation ▪ Tutorials
11	Lecture 17: thermodynamics.	<ul style="list-style-type: none"> ▪ Faculty Presentation ▪ Students participation ▪ Tutorials
12	Lecture 18: Static Electricity Lecture 19: Electrostatics	<ul style="list-style-type: none"> ▪ Faculty Presentation ▪ Students participation ▪ Tutorials
13	Lecture 20: Magnetism Lecture 21- Light	<ul style="list-style-type: none"> ▪ Faculty Presentation ▪ Students participation ▪ Tutorials
14	Lecture 22: Current /AC	<ul style="list-style-type: none"> ▪ Faculty Presentation ▪ Students participation ▪ Tutorials
15	Final Exam	

Course Assessment:

Assessment Method	Weightage	Week Due
Homework	10%	
Quiz 1	15%	
Quiz 2	15%	
Midterm	20%	Week 8
Final	40%	Week 15
Total	100%	

Required Textbooks and Recommended Readings:

Introduction to Biological Physics for the Health and Life Sciences, Franklin, Muir, Scott, Wilcocks and Yates, 2011, John Wiley and Sons.

Recommended Reading:

Introduction to Physics. John D. Cutnell & Kenneth W. Johnson. John Wiley & Sons, Inc.

GRD145 – Physics (Laboratory)

Course Pre-Requisite: None	Course Co-Requisite: GRD144
Credit Hours: 1	Semester/AY: 2/Year 1
Contact Hours: 2	Course Coordinator: Dr. Radhwan AlNaimi
Course Instructors: Abu Dhabi: Dr. Nadia Boutabba (Nadia.Boutabba@fchs.ac.ae) Al Ain: Mr. Abdullah Al –Tal (Abdulla.Altal@fchs.ac.ae)	

Course Description

GER 1124 is a complementary course to GER 1123, providing the practical laboratory component to an introduction to the Physicals principles. The material in GER 1124 includes 12 laboratory sessions that provide applications to the following concepts: an introduction to physics and measurement units; atomic and nuclear structure; mechanics and Newton's laws of motion; work and energy; waves and sound; material properties, heat thermal properties, electricity and electric fields; DC and AC currents and voltages; magnetism; light, optics and human vision.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Demonstrate safe effective laboratory practice
2. Demonstrate knowledge and understanding associated with the Mechanics which includes Newton's Laws of Motion, Circular Motion and Statics, Energy, Work and conservation of energy and power, Simple Harmonic Motion, Waves, Superposition & Interference, Sound and Hearing
3. Investigate the phenomena associated with Bulk materials which include Materials, Stress and Strain, Pressure and Density, Fluid Dynamics, Fluids and Transport
4. Determine in a practical manner, the principles and concepts of Thermodynamics. Topics which include Heat and Temperature, Ideal Gas Law, Phase and Temperature Change, Heat Transfer
5. Investigate the principles and concepts related to Electricity and Magnetism such as Electric Fields and Forces, Electric Potential Energy, DC Circuits and Currents, AC Circuits and Magnetism.
6. Investigate the functions and laws related to Optics with the Nature of Light, Geometrical Optics, Wave Optics, the Human Eye and Vision.

Course Outline:

Week No.	Topic/Content	Teaching Method
1	Orientation, safety and introduction to lab equipment - General introduction to the course. - Distribution of Course Outline and study chart. - Discussing student's responsibilities, and attendance policy. - Safety procedures in the physics lab. - Explanation of assessment criteria and how to write a report in physics.	Lecturing, class discussion, and experimental exemplifying
2	Safety Quiz	MCQ
3	Classical Kinematics/ Newton's Laws of Motion Experiment 1: Analysis of motion.	Experimental work under the supervision of the teacher and lab specialist.
4	Circular Motion and Statics / Energy and Work Experiment 2: Hook's law	Experimental work under the supervision of the teacher and lab specialist.
5	Simple Harmonic Motion Experiment 3: Simple Pendulum	Experimental work under the supervision of the teacher and lab specialist.
6	Waves, Superposition & Interference Sound and Hearing Experiment 4: Waves	Experimental work under the supervision of the teacher and lab specialist.
7	Solving Tutorials	Question and answer with class participation, and discussion.
9	<u>Quiz 1</u> (15% of the total mark of the course) Includes first four experiments Quiz 1 + Tutorial	MCQ & SAQ + Question and answer with class participation, and discussion.
10	Buoyancy and Fluid dynamics. Fluid dynamics of viscous fluids. Experiment 5: Buoyancy	Experimental work under the supervision of the teacher and lab specialist.
11	Heat and Temperature Ideal Gas Law Experiment 6: Newton's law of cooling	Experimental work under the supervision of the teacher and lab specialist.

12	Light Experiment 7: Convex lens	Experimental work under the supervision of the teacher and lab specialist.
13	Static Electricity / Electrostatics Tutorial	Question and answer with class participation, and discussion.
14	Magnetism Experiments 8: Mapping of the magnetic field	Experimental work under the supervision of the teacher and lab specialist.
15	Quiz 2	

Course Assessment:

Assessment Method	Weightage	Week Due
Lab Reports	55%	Whole semester
Safety Quiz	5%	Week 2
Quiz 1	15%	Week 9
Quiz 2	15%	Week 16
Participation	10%	Whole semester
Total	100%	

Required Textbooks and Recommended Readings:

1. GER1123 Physics Lecture Notes.
2. GER1124 Physics Laboratory Manual.
3. FCHS Student Safety Manual.

PTY112 – Human Biosciences 2 – Musculoskeletal

Course Pre-Requisite: PTY 111, PTY 121, PTY131	Course Co-Requisite: PTY122, PTY132
Credit Hours: 3	Semester/AY: 1/Year 1
Contact Hours: 3	Course Coordinator: Marian Gabor
Course Instructors: Abu Dhabi: Marian Gabor (marian.gabor@fchs.ac.ae) Al Ain: Fahad Alanazi (fahad.alanazi@fchs.ac.ae)	

Course Description

This course continues to provide the knowledge and skills which underpin physiotherapy practice. Two one-and-a-half hour lecture sessions are scheduled each week to cover integrated content areas of anatomy of bones, joints, muscles and connective tissues of the spine and upper limbs. It also covers radiographic, clinical and surface anatomy of spine and upper limbs relevant to physiotherapy practice. The course also gives emphasis to the physiology of sensorimotor function and autonomic nervous system of the human body.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Familiarize common terminologies related to anatomical structures of spine and upper limb.
2. Describe the spine and upper limb anatomical structures, joint functions and its interrelated movement principles, including basic radiographic concepts, surface and clinical anatomy.
3. Explain the physiological basis of the human body's sensory, motor and autonomic functions.
4. Identify the anatomical structures of spine and upper limb using multimedia anatomical models.
5. Demonstrate understanding of application of principles of human biosciences to physiotherapy practice in musculoskeletal spine and upper limb conditions.
6. Comply with department policies and procedures.
7. Show respect and safeguarding of anatomical models and multimedia resources.

Course Outline:

Week No.	Topic/Content	Teaching Method
1	Course induction <ul style="list-style-type: none"> - Course administration - Weekly schedule - Assessment tasks - Required and recommended readings Unit 1. Anatomy: The lumbar and sacral spine Unit 2. Physiology: Sensory-motor control of human movements – an introduction	Lecture
2	Unit 3. Anatomy: The cervical and thoracic spine Unit 4. Physiology: General properties of the sensory system	Lecture
3	Unit 5. Anatomy: The joints of the shoulder girdle Unit 6. Physiology: Somatic sensations	Lecture
4	Unit 7. Anatomy: The glenohumeral joint Unit 8. Physiology: Somatic sensations – pain sensations	Lecture
5	Unit 9. Anatomy: Principle of vessels – veins Unit 10. Anatomy: Principle of vessels – arteries	Lecture
6	Unit 11. Anatomy: The axilla Unit 12. Physiology: Thermal sensation	Lecture
7	Mid-term Revision OSCE for co-requisite course PTY 13222	Lecture Assessment
8	Midterm Examination	Assessment
9	Unit 13. Anatomy: The arm Unit 14. Physiology: Pathophysiology of peripheral nerve injury	Lecture
10	Unit 15. Anatomy: The elbow joint and cubital fossa Unit 16. Physiology: Organization of the spinal cord for motor functions - muscle sensory receptors	Lecture
11	Unit 17. Anatomy: The forearm extensors and wrist joint Unit 18. Physiology: Spinal cord reflexes - stretch reflex, Golgi tendon, flexor (withdrawal) and crossed extensor reflexes	Lecture
12	Unit 19. Anatomy: The forearm flexors and hand Unit 20. Physiology: Autonomic nervous system	Lecture
13	Unit 21. Anatomy: The hand	Lecture

	Unit 22. Physiology: Pathobiological mechanisms of pain	
14	Unit 23. Anatomy: The limbs and spine guided revision Unit 24. Physiology: Mechanisms-based clinical reason of pain	Lecture
15	End-semester revision OSCE for co-requisite PTY 13222	Lecture Assessment
16	Final Written Exam	

Course Assessment:

Assessment Method	Weightage	Week Due
Midterm Written Examination	40%	Week 7
Quiz	20%	Week 5 and Week 10
Final Written Examination	40%	Week 16
Professional Conduct	Hurdle	
Attendance Record	Hurdle	
Total	100%	

Recommended Textbooks and Readings:

Required textbook:

1. Moore, K. L. & Dalley, A. F. (2013). *Clinically oriented anatomy* (7th ed) Philadelphia: Lippincott Williams & Wilkins.

Recommended Readings:

1. Silverthorn, D.U. (2015) *Human Physiology: an integrated approach*. (7th Ed) San Francisco: Pearson Benjamin Cummings.
2. Netter F. H. (2014) *Atlas of human anatomy* (6th ed). Philadelphia: Saunders Elsevier.
3. Agur, A. M. R. and Dalley, A. F. (2012) *Grant's atlas of anatomy* (13th ed). Philadelphia: Lippincott Williams & Wilkins.
4. Eizenberg, N., Briggs, C., Adams, C. and Ahern, G. (2008). *An@tomedica: General Anatomy - Principles and Applications*, Melbourne: McGraw-Hill.

PTY122 – Physiotherapy Theory 2 - Musculoskeletal

Course Pre-Requisite: PTY111, PTY121, PTY131	Course Co-Requisite: PTY112, PTY132
Credit Hours: 3	Semester/AY: 1/Year 2
Contact Hours: 3	Course Coordinator: Marian Gabor
Course Instructors: Abu Dhabi: Marian Gabor (marina.gabor@fchs.ac.ae) Al Ain: Fahad Alanazi (fahad.alanazi@fchs.ac.ae)	

Course Description

This theoretical course provides learning opportunities in understanding of foundational concepts to the practice of physiotherapy. Two one-and-a-half-hour lectures are scheduled each week on the theoretical concepts underlying the practice of physiotherapy. Content of this course initially explores fundamentals of physiotherapy assessment, therapeutic exercises and electrophysical agents further leading to assessment and management of musculoskeletal conditions particularly of upper limb and spine.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Discuss the principles of biomechanics and kinesiology to the assessment and management of spine and upper limb.
2. Apply the fundamentals of physiotherapy management including therapeutic exercises and electrophysical agents on spine and upper limb.
3. Explain the pathophysiological basis of common musculoskeletal spine and upper limb conditions.
4. Explain relevant pharmacologic management of musculoskeletal spine and upper limb conditions.
5. Demonstrate basic record keeping skills using the principles of documentation involving spine and upper limb conditions.
6. Show respect towards peers and tutors.
7. Establish effective communication and working with peers.

Course Outline:

Week No.	Topic/Content	Teaching Method
1	Course induction <ul style="list-style-type: none">- Course administration- Weekly schedule- Assessment tasks- Required textbooks	Lecture

2	Unit 1. Biomechanics and applied anatomy of posture and lumbar spine Unit 2. Epidemiology of low back pain and common pathologies of the lumbar spine	Lecture
3	Unit 3. Biomechanics and applied anatomy of the cervical and thoracic spine Unit 4. Common pathologies of the cervical and thoracic spine	Lecture
4	Unit 5. Biomechanics and applied anatomy of the shoulder complex Unit 6. Evidence-based management protocols to shoulder conditions	Lecture
5	Unit 7. Common pathologies of the shoulder (1) Unit 8. Common pathologies of the shoulder (2)	Lecture
6	Unit 9. Therapeutic Ultrasound (1) Unit 10. Therapeutic Ultrasound (2)	Lecture
7	Mid-term Revision OSCE for co-requisite course PTY 13222	Lecture Assessment
8	Midterm Examination	Assessment
9	Unit 11. Upper limb nerve injuries 1 Unit 12. Upper limb nerve injuries 2	Lecture
10	Unit 13. Biomechanics and applied anatomy of the elbow and forearm Unit 14. Tendinopathies: current theories and management	Lecture
11	Unit 15. Biomechanics and applied anatomy of the hand and fingers Unit 16. Common pathologies of the wrist and hand	Lecture
12	Unit 17. Electroanalgesia Unit 18. Transcutaneous Electrical Nerve Stimulation	Lecture
13	Unit 19. Common pathologies affecting the hand 2 Unit 20. Whole body movement analysis 1	Lecture Workshop
14	Unit 21. Whole body movement analysis 2 Unit 22. End-semester revision	Workshop Lecture
15	OSCE for co-requisite PTY 13222	Assessment
16	Final Written Exam	

Course Assessment:

Assessment Method	Weightage	Week Due
Midterm Written Examinations	40%	Week 7
Documentation	20%	Week 5 and Week 10
Final Written Examinations	40%	Week 16
Professional Conduct	Hurdle	
Attendance Record	Hurdle	
Total	100%	

Recommended Textbooks and Readings:

Recommended Readings:

1. Kisner, C. & Colby, L.A. (2017). *Therapeutic Exercise: Foundations and Techniques* (7th ed). Philadelphia: FA Davis.
2. Belanger, A. (2014). *Therapeutic Electrophysical Agents: Evidence-Based Practice* (3rd ed). Philadelphia: Lippincott Williams & Wilkins.
3. Magee, D.J. (2013). *Orthopaedic Physical Assessment* (6th ed). Missouri: Saunders Elsevier.
4. Clarkson, H. M. (2012). *Musculoskeletal assessment: Joint range of motion and manual muscle strength* (3rd ed.). Philadelphia: Lippincott Williams & Wilkins.

Recommended Readings:

1. Brukner, P. & Khan, K. (2019). *Clinical Sports Medicine: The Medicine of Exercise Vol. 2* (5th ed). Sydney: McGraw-Hill.
2. Brukner, P., Clarsen, B., Cook, J., Cools, A., Crossley, K., Hutchinson, M. ,,, Khan, K. (2016). *Clinical Sports Medicine: Injuries Vol. 1* (5th ed). Sydney: McGraw-Hill.
3. Levangie, P. & Norkin, C. (2011). *Joint structure and function: a comprehensive analysis* (5th ed). Philadelphia: F. A. Davis Company.
4. Cleland, J. (2005). *Orthopaedic clinical examination: An evidence-based approach for physical therapists*. Carlstadt, NJ, Icon Learning Systems.
5. McRae, R and Esser, M (2008). *Practical Fracture Treatment* (5th ed). Edinburgh: Elsevier Churchill Livingstone.

PTY132 – Physiotherapy Practical 2 - Musculoskeletal

Course Pre-Requisite: PTY111, PTY121, PTY131	Course Co-Requisite: PTY112, PTY122
Credit Hours: 4	Semester/AY: 2/Year 1
Contact Hours: 8	Course Coordinator: Mrs. Marian Gabor
Course Instructors: Abu Dhabi: Marian Gabor (marian.gabor@fchs.ac.ae) Al Ain: Balkhis Banu (balkhis.banu@fchs.ac.ae)	

Course Description

In this practical course, students will learn the surface anatomy of the spine and upper limbs by indicating the key features of these regions and by palpating bones, joints, muscles and skin. Neurophysiological applications related to sensory and motor functions of the human body are also covered. The sessions also include practice of assessment and treatment techniques to move the spine and joints of the upper limbs carefully and effectively. Students will therefore also learn how to determine normal and abnormal movements, muscle length and strength, spine and upper limb characteristics and function. In addition, the students will continue to learn how to safely handle and apply electrophysical agents.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Use appropriate terminologies of relevant structures and functions for physiotherapy assessment and management of the spine and upper limb.
2. Describe the neurophysiological background of sensory and motor functions.
3. Restate the underlying principles of physiotherapy assessment and management based on human biosciences of the spine and upper limb.
4. Identify anatomical landmarks from surface anatomy of the spine and upper limb.
5. Demonstrate subjective and objective evaluation of the spine and upper limb.
6. Apply appropriate physiotherapy techniques including therapeutic exercises and electrophysical agents with safe manual handling of the spine and upper limb.
7. Develop understanding of the need to respect peers and tutors through simulated experiences.
8. Simulate selected dysfunctions and disabilities to aid in the learning of empathy and understanding of physical problems.
9. Establish effective communication and working with peers.

Course Outline:

Week No.	Topic/Content	Teaching Method
1	Course induction <ul style="list-style-type: none"> - Course administration - Weekly schedule - Assessment tasks - Practical Manual 	Lecture
2	Unit 1. Anatomy Practical: The lumbar and sacral spine Unit 2. Physical examination of the lumbar spine and sacrum (1) Unit 3. Physical examination of the lumbar spine & sacrum (2) Unit 4. Skills Mastery	Practical
3	Unit 5. Anatomy Practical: The cervical and thoracic spine Unit 6. Physical examination of the cervical and thoracic region (1) Unit 7. Physical examination of the cervical and thoracic region (2) Unit 8. Physiology Learning Lab <ul style="list-style-type: none"> - Somatic cutaneous sensation - "How sensitive are you?" 	Practical
4	Unit 9. Anatomy Practical: The joints of the shoulder girdle Unit 10. Initial interview of the shoulder / physical examination of the scapulothoracic joint Unit 11. Surface anatomy of muscles of the glenohumeral joint Unit 12. Skills Mastery	Practical
5	Unit 13. Anatomy Practical: The glenohumeral joint Unit 14. Physical examination of the shoulder joint (1) Unit 15. Physical examination of the shoulder joint (2) Unit 16. Physiology Learning Lab: <ul style="list-style-type: none"> - Demonstration of strength-duration curve: measurement of rheobase & chronaxie 	Practical
6	Unit 17. Anatomy Practical: The axilla Unit 18. Mobilising techniques and exercises for the shoulder	Practical

	Unit 19. Strengthening exercises for the shoulder Unit 20. Skills Mastery	
7	OSCE and Viva	Assessment
8	Unit 21. Anatomy Practical: The arm Unit 22. Upper and lower limb neurological examination Unit 23. Movement analysis of the shoulder Unit 24. Skills Mastery	Practical
9	Unit 25. Anatomy Practical: The elbow joint and cubital fossa Unit 26. Initial interview of the elbow / Physical examination of the elbow Unit 27. Mobilising techniques for the elbow Exercises for the elbow Unit 28. Physiology Learning Lab: - Reflexes and reaction times	Practical
10	Unit 29. Anatomy Practical: The forearm extensors Unit 30. Surface anatomy of the forearm and inferior radioulnar joint Unit 31. Initial interview wrist and physical examination of the radiocarpal joint (1) Unit 32. Skills Mastery	Practical
11	Unit 33. Anatomy Practical: The forearm flexors and hand Unit 34. Physical examination and manual treatment of the radiocarpal joint (2) Unit 35. Electrical stimulation of innervated muscles and clinical applications of TENS for pain relief Unit 36. Physiology Learning Lab: - Elicitation of ulnar and median nerve conduction velocity	Practical
12	Unit 37. Anatomy Practical: The hand Unit 38. Surface anatomy and physical examination of the hand Unit 39. Physiotherapy Management and Exercises for the wrist and hand	Practical

	Unit 40. Skills Mastery	
13	Unit 41. Anatomy practical revision: the limbs and spine Unit 42. Useful assessment procedures and diagnostic tests for the upper limb Unit 43. Designing a comprehensive upper body progressive strengthening and stretching routine Unit 44. Skills Mastery	Practical
14	Unit 45. End-semester revision (spine assessment) Unit 46. End-semester revision (spine treatment) Unit 47. End-semester revision (upper limb assessment) Unit 48. End-semester revision (treatment)	Practical
15	OSCE and Viva	Assessment
16	[Final Written Exams of Co-requisite Courses]	

Course Assessment:

Assessment Method	Weightage	Week Due
Objective Structured Clinical Examination – Midterm	30%	Week 7
Image Exam – Midterms	15%	Week 7
Viva *	10%	Week 15
Objective Structured Clinical Examination – Midterms & Finals	30%	Week 15
Image Exam – Midterms & Finals	15%	Week 15
Professional Conduct	Hurdle	
Skills Mastery Checklist	Hurdle	
Attendance Record	Hurdle	
Total	100%	

*Could be converted to various assessment tasks (e.g. Group Exercise, Skills Assessment, Skills Testing, Reflective Writing, etc.).

Recommended Textbooks and Readings:

Recommended Readings:

1. Kisner, C. & Colby, L.A. (2017). *Therapeutic Exercise: Foundations and Techniques* (7th ed). Philadelphia: FA Davis.
2. Belanger, A. (2014). *Therapeutic Electrophysical Agents: Evidence-Based Practice* (3rd ed). Philadelphia: Lippincott Williams & Wilkins.
3. Magee, D.J. (2013). *Orthopaedic Physical Assessment* (6th ed). Missouri: Saunders Elsevier.

4. Clarkson, H. M. (2012). *Musculoskeletal assessment: Joint range of motion and manual muscle strength* (3rd ed.). Philadelphia: Lippincott Williams & Wilkins.

Recommended Readings:

1. Brukner, P. & Khan, K. (2019). *Clinical Sports Medicine: The Medicine of Exercise Vol. 2* (5th ed). Sydney: McGraw-Hill.
2. Brukner, P., Clarsen, B., Cook, J., Cools, A., Crossley, K., Hutchinson, M. ,,, Khan, K. (2016). *Clinical Sports Medicine: Injuries Vol. 1* (5th ed). Sydney: McGraw-Hill.
3. Levangie, P. & Norkin, C. (2011). *Joint structure and function: a comprehensive analysis* (5th ed). Philadelphia: F. A. Davis Company.
4. Cleland, J. (2005). *Orthopaedic clinical examination: An evidence-based approach for physical therapists*. Carlstadt, NJ, Icon Learning Systems.
5. McRae, R and Esser, M (2008). *Practical Fracture Treatment* (5th ed). Edinburgh: Elsevier Churchill Livingstone.

GRD261 – Academic Writing 2

Course Pre-Requisite: GRD161	Course Co-Requisite: None
Credit Hours: 2	Semester/AY: 2/Year 1
Contact Hours: 3	Course Coordinator: Dr. Michelle Van Heerden
Course Instructors: Abu Dhabi: Andrew Milewski (Andrew.milewski@fchs.ac.ae) Al Ain: Dr. Michelle Vanherdeen (Michelle.vanherdeen@fchs.ac.ae)	

Course Description

CCR 1211, Academic Writing 2 builds on GER 1111 and will continue to develop reading academic texts, writing academic essays, using academic conventions and language appropriately, and demonstrate information literacy skills. In addition, students will develop the skills of quoting, summarizing and paraphrasing when reviewing and evaluating research literature. Finally, students will gain valuable 21st century literacies related to the language of persuasion, oral communication and the use of basic technological tools.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Understand a range of metacognitive and discourse-based strategies that will enhance their ability to engage with academic reading and writing tasks.
2. Use effective research and information literacy skills to develop academic cultural literacies associated with academic conventions and discourses.
3. Explore a range of strategies and processes for improving writing skills which include an ability to identify and make appropriate language choices associated with academic purpose, genre and register.
4. Apply appropriate English communication strategies to verbally present basic statistical data (Tables, Charts, and Graphs) and argue a position related to the healthcare professional field.

Course Outline:

Week No.	Topic/Content	Teaching Method
1	Course Orientation & Revision of basic terms covered in GER 1111	Inquiry-based pedagogies
2	Module 1: Research and Information Literacy Unit 1: What is research?	Inquiry-based pedagogies
3	Module 1: Research and Information Literacy Unit 2: Information Literacy	Collaborative-based pedagogies

4	Module 1: Research and Information Literacy Unit 3: Reading and understanding peer-reviewed journal articles	Knowledge-based pedagogies
5	Module 2: Academic Writing Unit 1: Annotated Bibliography	Knowledge-based pedagogies
6	Module 2: Academic Writing Unit 1: Searching for literature	Inquiry-based pedagogies
7	Module 2: Academic Writing Unit 1: Writing to Learn- Using literature to compile an Annotated Bibliography	Inquiry-based pedagogies
8	Module 2: Academic Writing Unit 2: Writing to Learn- Writing a research paper	Group/collaborative-based Pedagogies
9	Module 2: Academic Writing Unit 2: Writing to Learn-Writing the introduction	Group/collaborative-based Pedagogies
10	Module 2: Academic Writing Unit 2: Reviewing the literature	Collaborative-based pedagogies
11	Module 2: Academic Writing Unit 2: Writing to Learn- Writing the methodology	Collaborative-based pedagogies
12	Module 2: Academic Writing Unit 2: Writing to Learn- Results and discussion	Inquiry-based pedagogies
13	Module 3: Academic Presentations Unit 1: Language to communicate basic statistical data	Inquiry-based pedagogies
14	Module 3: Academic Presentations Wrap up & Student presentations	Collaborative-based pedagogies
15	Final Examination	

Course Assessment:

Assessment Method	Weightage	Week Due
Quiz 1: Research case studies	10%	Week 5
Midterm	20%	Week 7
Annotated Bibliography (Individual)	10%	Week 10
Group Project: Writing a research paper	20%	Week 13
Oral Presentation	10%	Week 14
Final	30%	Week 15
Total	100%	

Recommended Readings:

1. McMillan, K. (2014). *How to write for university: Academic writing for success*. United Kingdom: Pearson International.
2. Birkenstein, C.; Durst. R. & Graff, G. (2018). *They say. I say: The moves that matter in academic writing*. New York: W. W. Norton & Company

FIRST YEAR

TERM 3

PTY151 – Clinical Placement 1

Course Pre-Requisite: PTY111, PTY121, PTY131, PTY112, PTY122, PTY132	Course Co-Requisite: PTY141
Credit Hours: 3	Semester/AY: 3/Year 1
Contact Hours: 18	Course Coordinator: Malarkodi Rajendran
Course Instructors: Abu Dhabi: Clinical Supervisors Al Ain: Clinical Supervisors	

Course Description

The clinical course at the end of the first year is primarily comprised of 18 hours of clinical placement per week in musculoskeletal stream. Students undertake clinical attachments during this course, providing them with the opportunity to observe physiotherapy practice in clinical settings and link knowledge and skills developed from the first-year courses. The PTY CP1 Course Guide provides an outline of the objectives to be undertaken for each week. It also refers students to excellent resources for further enhancing the learning process.

Course Learning Outcomes

On completion of this course, it is expected that the student will be able to:

1. Understand the need to communicate effectively and appropriately with clients, caregivers, supervisors and professional colleagues.
2. Develop an awareness of safe practice in health care including moving and handling, environmental safety and risk minimization.
3. Describe the role of physiotherapy in the management of people with musculoskeletal conditions.
4. Discuss the basic principles and application of electrophysical agents and therapeutic techniques in the treatment of common musculoskeletal conditions.
5. Recognize the importance of documenting the physiotherapy assessment and interventions accurately and succinctly.
6. Observe and infer ethical practice of clinical practitioners.
7. Identify and the rights and responsibilities of students, clinicians, patients and carers.
8. Demonstrate commitment to learning.

Course Outline:

Week No.	Topic/Content	Teaching Method
1	Clinical Placement in Musculoskeletal conditions	Observation and shadowing
2	Clinical Placement in Musculoskeletal conditions	Observation and shadowing
3	Clinical Placement in Musculoskeletal conditions	Supervised clinical practice
4	Mid-semester assessment	Formative assessment and feedback on clinical practice
5	Clinical Placement in Musculoskeletal conditions	Minimal supervised clinical practice
6	Clinical Placement in Musculoskeletal conditions	Supervised clinical practice
7	Clinical Placement in Musculoskeletal conditions	Independent clinical practice
8	Final-semester assessment	Summative assessment and feedback on clinical practice

Course Assessment:

Assessment Method	Weightage	Week Due
Reflective Portfolio	Pass/Fail	Week 8
Competency/SkillsMastery Checklist	Pass/Fail	Week 8
Learning needs form	Hurdle	Week 1
Clinical log	Hurdle	Weekly
Total	Pass/Fail	

Recommended Textbooks and Readings:

1. Belanger, A. (2014). *Therapeutic Electrophysical Agents: Evidence-Based Practice* (3rd ed). Philadelphia: Lippincott Williams & Wilkins.
2. Brukner, P. & Khan, K. (2012). *Clinical sports medicine* (4th ed). Sydney: McGraw-Hill.
3. Cleland, J. (2005). *Orthopaedic clinical examination: An evidence-based approach for physical therapists*. Carlstadt, NJ, Icon Learning Systems.
4. Kisner, C. & Colby, L.A. (2012). *Therapeutic Exercise: Foundations and Techniques* (6th ed). Philadelphia: FA Davis.
5. Levangie, P. & Norkin, C. (2005). *Joint structure and function: a comprehensive analysis* (4th ed). Philadelphia: F. A. Davis Company.
6. McRae, R and Esser, M (2008). *Practical Fracture Treatment* (5th ed). Edinburgh: Elsevier Churchill Livingstone.
7. Clarkson, H. M. (2000). *Musculoskeletal assessment: Joint range of motion and manual muscle strength*. Philadelphia: Lippincott Williams & Wilkins.
8. Magee, D.J. (2014). *Orthopaedic Physical Assessment* (6th ed). Missouri: Saunders Elsevier.

PTY141 – Integrated Evidence-Based Practice 1

Course Pre-Requisite: PTY111, PTY121, PTY131, PTY112, PTY122, PTY132	Course Co-Requisite: PTY151
Credit Hours: 2	Semester/AY: 3/Year 1
Contact Hours: 4	Course Coordinator: Chithira Nair
Course Instructors: Abu Dhabi: Chithira Nair (Chithira.nair@fchs.ac.ae) Al Ain: Dr. Balkhis Banu. (Balkhis.Shaik@fchs.ac.ae)	

Course Description

Physiotherapists in musculoskeletal practice see a diverse range of patients with acute and chronic orthopaedic conditions. The course will form a basis to address realistic narrative scenarios of clients in clinical situations focusing on case-based learning (CBL) particularly in musculoskeletal conditions. The learning approach is student-centred that provides opportunity to learn interactively with their peers in a small group setting.

Prior to case-based learning sessions, students will undergo an intensive 2-week introductory sessions to develop research literacy skills which are prerequisite to applying evidence-based practices. Parallely, the students will have an opportunity to see musculoskeletal clinical practice on their Clinical Placement 1 course that will be run as a co-requisite. This will provide an opportunity to link commonly seen musculoskeletal pathologies, in different age groups, with assessment tools, clinical reasoning and physiotherapy treatments.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Understand the different types of research studies and demonstrate how to properly cite using APA referencing style.
2. Know how to formulate a focused research question using the PICO framework.
3. Develop skills in searching for literature in databases (e.g. PEDro, CINAHL, Medline, Cochrane) while understanding how to make a sensitive or specific search strategy.
4. Recognize quality of studies through the use of appropriate appraisal tools based on the study types.
5. Apply evidences into the assessment and treatment of clinical scenarios in case-based learning sessions.
6. Work collaboratively in small learning groups, recognize the factors which determine effective teamwork and develop oral presentation skills for case presentation.

Course Outline:

Week No.	Topic/Content	Teaching Method
1	1.1 Introduction to Research and Evidence-Based Practice 1.2 Developing a focused research question using PICO framework 1.3 Case 1 Setting the scene for CBL 1	Lecture Workshop Case based learning (CBL)
2	2.1 Searching Databases 2.2 Quality Appraisal of Randomized Controlled Trials 2.3 Case 2 Setting the scene for CBL 2	Workshop Workshop Case based learning (CBL)
3	3.1 Case 3 Hip pathology 1 3.2. Case 4 Hip pathology 2 3.3. Case 5 Hip pathology 3 3.4 Case 6 Knee pathology 1	Case based learning (CBL)
4	4.1 Case 7 Knee pathology 2 4.2 Case 8 Knee pathology 3 4.3 Case 7 Ankle and foot pathology 1 4.4 Case 8 Ankle and foot pathology 2	Case based learning (CBL)
5	5.1 Case 9 Lumbo-sacral pathology 1 5.2 Case 10 Lumbo-sacral pathology 2 5.3 Case 11 Cervicothoracic pathology 1 5.4 Case 12 Cervicothoracic pathology 2	Case based learning (CBL)
6	6.1 Case 13 Shoulder pathology 1 6.2 Case 14 Shoulder pathology 2 6.3 Case 15 Shoulder pathology 3 6.4 Case 16 Elbow pathology 1	Case based learning (CBL)
7	7.1 Case 17 Elbow pathology 2 7.2 Case 18 Elbow pathology 3 7.3 Case 19 Wrist and hand pathology 1 7.4 Case 20 Wrist and hand pathology 2	Case based learning (CBL)
8	End semester exam	

Course Assessment:

Assessment Method	Weightage	Week Due
CBL Learning and Performance Summative assessment of students' performance in CBL throughout semester	40%	Weekly
End-semester Examination	60%	Week 8
Professional Conduct	Hurdle	
Midway self-evaluation and peer-evaluation	Hurdle	
Attendance Record	Hurdle	
Total	100%	

Recommended Textbooks and Readings:

1. Marmot, M. (2015). The health gap: the challenge of an unequal world. *The Lancet*, 386: 2442-44.
2. Marmot, M., Allen, J. (2014). Social determinants of health equity. *American journal of public health*; vol. 104.
3. Madden, R & Dimitropoulous, V (2014). The International Classification of Functioning, Disability and Health ICF: What it is and what it can be used for. *Interchange Journal of the Health Information Management Association of Australia*, vol. 4, no. 1, pp.27–29.
4. Kisner, C. & Colby, L.A. (2012). *Therapeutic Exercise: Foundations and Techniques* (6th ed). Philadelphia: FA Davis.
5. McRae, R and Esser, M (2008). *Practical Fracture Treatment* (5th ed). Edinburgh: Elsevier Churchill Livingstone.
6. Clarkson, H. M. (2012). *Musculoskeletal assessment: Joint range of motion and manual muscle strength* (3rd ed.). Philadelphia: Lippincott Williams & Wilkins.

SECOND YEAR

TERM 1

GRD133 – Foundations of Health

Course Pre-Requisite: Nil	Course Co-Requisite: Nil
Credit Hours: 3	Semester/AY: 1/Year 2
Contact Hours: 3	Course Coordinator: Nada Abou Hassanein
Course Instructors: Abu Dhabi: Nada Abou Hassanein (Nada.Hassanein@fchs.ac.ae) Al Ain: Hana Ghunaim (Hana.Ghunaim@fchs.ac.ae)	

Course Description

This course is designed to equip students with basic knowledge related to medical terminology, patient assessment, infection control and safety measures of healthcare workers, as well as the basic ethical principles that guide the health practice.

The course also focuses on health education and promotion skills stressing on the new technologies for the prevention of diseases (vaccinations, screening, diagnostic tests, and new concepts in genetic engineering and biotechnology). Students will have the opportunity to learn about contemporary health issues and critical issues in global health including women's health, environmental health, the nutritional crisis to come, and violence.

Course Learning Outcomes

Upon completion of this course, students will be able to:

1. Define common medical terms. Apply basic principles of medical word building (Medical Terminology).
2. Understand and demonstrate principles of health education/ promotion. techniques that will reduce the risk of selected health-related disease cases and improve quality of life.
3. Understand contemporary health problems (globally and locally).
4. Understand the importance of infection control.
5. Conduct basic health assessment.
6. State the legal and ethical regulations that apply to healthcare delivery, and outline the moral basis of patient confidentiality.
7. Identify and discuss the major principles of patient's safety and harm prevention.
8. Identify patient's rights and responsibilities in health care.
9. Describe and categorize diseases of the different body systems.

Course Outline:

Week No.	Topic/Content	Teaching Method
1	<u>Introduction to the course:</u> General introduction to the course Distribution of Course Outline and study chart	-

	Explanation of assessment criteria, student's responsibilities, and attendance policy.	
2	1. Medical Terminology Introduction to medical terminology. Basic Concepts of Medical Terminology Building medical terms Body systems medical terms	PP presentation Application exercises
3	1. Medical Terminology Using Medical Abbreviations. Identify the medical terminology in medical record reports.	PP presentation Application exercises
4	2. Health Promotion- Health Education What is health promotion and health education? Role of the health care professionals as health educators. The provision of health education. The role of health education in disease prevention and treatment. Health education/promotion and community health.	PP Presentation Students' presentation of the different health Promotion Initiatives in UAE
5	3. Contemporary Health problems Global and local.	PP Presentation Group assignments of the different global health issues to be chosen for project.
6	4. Principles of Infection Control Hand Hygiene / Using personal protective measures. Standard and transmission-based precautions.	PP Presentation, Demonstration, Showing videos
7	5. Basic Assessment Techniques Health History, Physical Examination, Vital signs	PP Presentation, Demonstration, Showing videos
8	MIDTERM EXAM	
9	6. Ethical Legal Issues in Healthcare I Laws, morals, and ethics, moral principles, Professional Codes of Ethics, Informed consent, Confidentiality.	PP Presentation Discussion of cases
10	7. Ethical Legal Issues in Healthcare II Laws, morals, and ethics, moral principles, Professional Codes of Ethics, Informed consent, Confidentiality.	PP Presentation Discussion of cases
11	8. Principles of Patient Safety Principles of patients' safety, WHO facts of patient safety, WHO 7 goals of patient safety, Risk management.	PP Presentation Tutorial Activities
12	9. Diseases and Disorders I Terms related to diseases and disorders: pathology, Incidence, signs & symptoms, sources of diseases and disorders emerging diseases and disorders of the different body systems and treatments.	PP Presentation Tutorial Activities
13	10. Diseases and Disorders II	PP Presentation Tutorial Activities

	Emerging diseases and disorders of the different body systems and treatment of different body systems.	
14	11. Contemporary Global Health Issues	Group Oral Presentations
15	11. Contemporary Global Health Issues	Group Oral Presentations
16	FINAL EXAM	

Course Assessment:

Assessment Method	Weightage	Week Due
Quiz 1	10%	Week 4
Midterm	30%	Week 7
Quiz 2	10%	Week 10
Group Oral Presentation*	10%	Week 14
Final	40%	Week 15
Total	100%	

*Group Oral Presentation

Step 1: Group forming and choosing topic: Students will be asked at the introductory sessions to prepare group presentations that focus topics covered in the course such as health promotion activities stressing on the new technologies for the prevention of diseases (vaccinations, screening, diagnostic tests, and new concepts in genetic engineering and biotechnology). Besides students also can choose to discuss critical issues in global health such as Women's Health, Environmental Health, The Nutritional Crisis to come, and Violence.

Step 2: Presentations: Group presentation of the different projects during week 14 & 15.

Students can use PPP or Poster presentation or any other sort of audio-visual to present their topics.

Required Textbooks and Recommended Readings

Primary Book

Booth, K. A, (2013). *Healthcare Science Technology-A complete online Learning System*. McGraw Hill. USA

Additional Readings

1. Bronson, M., Cleary, M., & Hubbard, B. (2009). *Teen Health 3*. Glencoe: McGraw-Hill. USA
2. Dealey, C. (2005). *The Care of Wounds: A Guide for Nurse* (3rd ed.). Oxford, UK: Blackwell Publishing.
3. Meeks, L., Heit, P., & Page, R. (2008). *Health and Wellness*. Glencoe: McGraw-Hill. USA
4. Simmers, L., Nartker, K., Kobelak, S. (2008). *Diversified Health Occupation*. (7th Edition). Delmar.
5. Simmers, L., Nartker, K., Kobelak, S. (2008). *Introduction to Health Science Technology*. (2nd Edition). Delmar.

GRD171 – Introduction to Psychology

Course Pre-Requisite: N/A	Course Co-Requisite: N/A
Credit Hours: 3	Semester/AY: 1/Year 2
Contact Hours: 3	Course Coordinator: Dr. Saher Alsabbah
Course Instructors: Abu Dhabi: Dr. Saher Alsabbah (saher.alsabbah@fchs.ac.ae) Al Ain: Dr. Saher Alsabbah (saher.alsabbah@fchs.ac.ae)	

Course Description

This course aims to provide a basic understanding of the psychology of human behaviour, explaining different subjects such as learning, development, cognition, and psychological disorders. The course enhances student's knowledge and understanding of how people think and act and provide insight into the student's own personality and reactions, so they will be able to deal with stress and problems. The course is delivered with theory and some practical activities to ensure that students know how to apply their acquired knowledge.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Discuss the history, philosophy and sub-divisions of psychology.
2. Discuss the common psychological disorders.
3. Understand the stages of human development.
4. Explain the higher cognitive processes of learning, memory, language, thinking and intelligence relating them to your role as a health care professional.
5. Explain the concepts of sensation, perception and consciousness and how they relate to your role as a health care professional.
6. Demonstrate scientific report writing.
7. Explain the types of personality, the concepts of stress and coping, and how they can affect the behaviour of yourself and others.

Course Outline:

Week No.	Topic/Content	Teaching Method
1	Lecture 1 P-B Introduction to psychology (History of Psychology and research in psychology)	PPT, group discussion, and Lecturing
2	Abnormal Psychology 1	PPT, Videos, and Lecturing
3	Abnormal Psychology 2	PPT, Videos, and Lecturing
4	Developmental Psychology (Quiz 1)	PPT, Group discussion, Videos, and Lecturing

5	Learning 1 & 2	PPT, Videos, practical work, and Lecturing
6	Memory	PPT, Videos, practical work, and Lecturing
7	Thinking + Intelligence	PPT, Videos, and Lecturing
8	The MT Exam Week	Examination
9	Biological psychology	PPT, Videos, and Lecturing
10	Consciousness (Quiz 2)	PPT, Videos, and Lecturing
11	Stress and Coping (Report Submission)*	PPT and Lecturing
12	Personality	PPT, Videos, and Lecturing
13	Students Presentations*	PPT and Presentation
14	Students Presentations*	PPT and Presentation
15	Students Presentations*	PPT and Presentation
16	The Final Examinations Week	Examination

*Students will be divided in groups at the beginning of each semester and they will be requested to write an essay report in one of the psychology topics. In the last two weeks of the course, each student will have to present PPTs slides individually in the classroom in no more than 5 minutes. A presentation rubric will be used to evaluate the student's performance focused on some criteria such as voice clarity, materials organization, subject knowledge, eye contact and confidence, and appearance.

Course Assessment:

Assessment Method	Weightage	Week Due
Quizzes	20%	Weeks 4 and 10
Psychology Report	15%	Week 11
Presentation	5%	Weeks 13, 14 and 15
MT exam	20%	Week 8
Final Exam	40%	Week 16
Total	100%	

Recommended Textbooks and Readings:

Textbook:

1. Nolen, S., Fredrickson, B. L., Loftus, G. R., & Wagenaar, W. A. (2014). Atkinson & Hilgard's introduction to psychology (16th ed.). Australia: Wadsworth Cengage Learning.

Recommended readings:

1. Barkway, P. (2013). Psychology for health professionals, 2nd Edition. Sydney: Churchill Livingstone. Chapters 2, 3, 8, 10.
2. Findlay, Bruce. (2011). How to Write Psychology Research Reports and Essays, 6th Edition, updated with APA (American Psychological Association) styles.
3. Harrington, Rick. (2013). Stress, Health, and Well-being: Thriving in the 21st Century. Wadsworth-Cengage Learning. Publisher: Jon-David Hague-USA.

PTY213 – Human Biosciences 3 – Neurology & Paediatrics

Course Pre-Requisite: PTY112, PTY122 PTY132	Course Co-Requisite: PTY223, PTY233
Credit Hours: 2	Semester/AY: 1/Year 2
Contact Hours: 2	Course Coordinator: Ms Ana Anjos
Course Instructors: Abu Dhabi: Ms Ana Anjos (ana.anjos@fchs.ac.ae) Al Ain: Mr. Senthilnathan Ramakrishnan (Senthilnathan.ramakrishnan@fchs.ac.ae)	

Course Description

This course is designed to equip the students with the knowledge and skills that underpin physiotherapy clinical practice and focuses on the structure, function and physiology of both the adult and paediatric nervous system. This theoretical course includes detailed neuro anatomy and neurophysiology as well as pharmacology and pathology related to nervous system.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Describe the development of the nervous system.
2. Explain the structure and function of the brain.
3. Describe the motor milestones achieved in normal childhood development.
4. Describe the normal physiological processes of the neurological system.
5. Describe the pathology of central nervous system diseases and their impact on motor and sensory function.
6. Explain the mechanisms of recovery in the central nervous systems.
7. Explain the principles of pharmacological management of neurological disorders.

Course Outline:

Week No.	Topic/Content	Teaching Method
1	1.1 Introduction to neuro anatomy and neuro Physiology 1.2 Development of the nervous system	Lecture Lecture
2	2.1 Neurophysiology Lecture: Infant reflexes and stereotyped movements. 2.2 Anatomy lecture: External Anatomy of the Brain	Lecture Lecture

3	3.1 Neurophysiology lecture: Motor control of human movement 3.2 Anatomy Lecture: Internal Anatomy of the Brain	Lecture Lecture
4	4.1 Neurophysiology Lecture: Cortical control of motor function-1 4.2 Anatomy Lecture: Supply Systems of the Brain	Lecture Lecture
5	5.1 Neurophysiology Lecture: Cortical control of motor function-2 5.2 Neurophysiology Lecture: Cortical control of motor function-3	Lecture Lecture
6	6.1 Neurophysiology lecture: Tone abnormalities, definitions and physiologic neuroanatomy 6.2 Neurophysiology lecture: Tone abnormalities II	Lecture Lecture
7	7.1 Anatomy Revision Session: Cervical and thoracic and Lumbar spine 7.2 Anatomy Revision Session: Lumbar and Sacral spine	Lecture Lecture
8	Mid-semester written and OSCE exam week	
9	9.1 Neurophysiology lecture: Intellectual functions of the brain (1): The function of the brain in communication 9.2 Neurophysiology lecture: The basal ganglia	Lecture Lecture
10	10.1 Neurophysiology lecture: Physiological basis of motor learning and recovery of function (1) 10.2 Neurophysiology lecture: Physiological basis of motor learning and recovery of function (2)	Lecture Lecture
11	11.1 Neurophysiology lecture: Intellectual functions of the brain (2): The function of the brain in communication	Lecture
12	12. 1 Neurophysiology lecture: The cerebellum-1 12.2 Neurophysiology lecture: The cerebellum-2	Lecture Lecture
13	13.1 Anatomy revision: Upper limb 13.2 Anatomy Revision: Lower limb	Lecture Lecture
14	14.1 Interactive tutorial: Live demonstration of brain excitability and neuroplasticity	Demonstration
15	End semester revision week	
16	End semester written examination	

Course Assessment:

Assessment Method	Weightage	Week Due
Midterm Written Examinations	30%	Week 7
2 Quizzes	30%	Week 4 & 11
Final Written Examinations	40%	Week 15
Professional Conduct	Hurdle	Week 16
Attendance Record	Hurdle	Week 16
Total	100%	

Recommended Textbooks and Readings:

1. Larsen, D. S.N., Kegelmeyer, D. K., Buford, J. A., Kloos, A. D., Heathcock, J. C & Basso D M. (2016). Neurologic Rehabilitation: Neuroscience and Neuroplasticity in Physical Therapy Practice (1st Ed). McGraw- Hill Education.
2. Crossman, A. & Neary, D. (2010). Neuroanatomy – An illustrated colour text. 4TH ed. Edinburgh, Churchill Livingstone.
3. Eizenberg, N., Briggs, C. & Adams (2006) General Anatomy - Principles and Applications, Melbourne, Melbourne University Department of Anatomy & Cell Biology.
4. Harris, P. N. (2012). Mosby's Dictionary of Medical, Nursing and Allied Health Professions (9th Ed.). Elsevier Mosby.
5. Moore, K. L. & Dalley, A. F. (2010). Clinically oriented anatomy.(6th ed) Philadelphia: Lippincott Williams & Wilkins.
6. Netter F. H. (2006) Atlas of human anatomy (4th ed). Philadelphia: Saunders Elsevier.
7. Silverthorn, D.U. (2010) Human Physiology, An integrated Approach (5th ed.), Pearson International Edition.
8. Cassilhas, R. C., Tufik, S., & de Mello, M. T. (2016). Physical exercise, neuroplasticity, spatial learning and memory. Cell Mol Life Sci, 73(5), 975-983.
9. Petzinger, G. M., Fisher, B. E., McEwen, S., Beeler, J. A., Walsh, J. P., & Jakowec, M. W. (2013). Exercise-enhanced neuroplasticity targeting motor and cognitive circuitry in Parkinson's disease. Lancet Neurol, 12(7), 716-726.
10. Reid, L. B., Rose, S. E., & Boyd, R. N. (2015). Rehabilitation and neuroplasticity in children with unilateral cerebral palsy. Nat Rev Neurol, 11(7), 390-400.

PTY223 – Physiotherapy Theory 3 – Neurology & Paediatrics

Course Pre-Requisite: PTY112, PTY122, PTY132	Course Co-Requisite: PTY213, PTY233
Credit Hours: 3	Semester/AY: 1/Year 2
Contact Hours: 3	Course Coordinator: Ms. Sunitha Mysore
Course Instructors: Abu Dhabi: Ms. Sunitha Mysore (Sunitha.mysore@fchs.ac.ae) Al Ain: Ms. Balkhis Banu (Balkhis.shaik@fchs.ac.ae)	

Course Description

This theoretical course continues to provide the knowledge and skills that underpin physiotherapy clinical practice and deals primarily with the neurological system. This course integrates the structure, function, and pathophysiology of the neurological system to have a deeper understanding of the various pathologies related to genetic and the central nervous system.

This course aims to develop clinical competencies that are integral to physiotherapy practice. It will focus on the incorporation of the best available research evidence with the clinical reasoning skills of assessment, management, and evaluation for clients across the lifespan with conditions of the neurological system. The course extends previously acquired skills in manual handling, postural assessment, and clinical skills.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Describe the components of key motor milestones development and its implications for physiotherapy practice.
2. Explain the pathophysiological basis of common conditions related to the central nervous system both in adults and paediatric population.
3. Discuss the principles of recovery and assessment in conditions related to central nervous system in both paediatrics and adult population.
4. Discuss the management of physiotherapy management for central nervous system lesions and genetic paediatric conditions.
5. Discuss the use of orthotics, electro physical agents and assistive technologies for both adults and children with brain injury.

Course Outline:

Week No.	Topic/Content	Teaching Method
1	1.1 Introduction to neuro-paeds physiotherapy 1.2 UMN lesions	Lecture Lecture
2	2.1 Normal motor development 1 2.2 Introduction to stroke	Lecture Lecture
3	3.1 Developmental delay 3.2 Physiotherapy assessment of stroke	Lecture Lecture
4	4.1 Introduction to CP 4.2 Physiotherapy management of stroke	Lecture Lecture
5	5.1 Management of CP 5.2 Introduction to TBI	Lecture Lecture
6	6.1 Assistive technology in CP 6.2 Physiotherapy assessment and management of TBI	Lecture Lecture
7	7.1 Revision of paediatrics 7.2 Revision of neurological condition	Lecture Lecture
8	Mid-semester written and OSCE exam week	
9	9.1 Down's syndrome 9.2 Parkinson's disease	Lecture Lecture
10	10.1 Genetic disorders: A paediatric perspective 10.2 Other degenerative neurological conditions	Lecture Lecture
11	11.1 Autism spectrum disorder (ASD) 11.2 Non-motor impairments in brain injury	Lecture Lecture
12	12. 1 Cerebellar disorders (Ataxia) 12.2 Multiple sclerosis	Lecture Lecture
13	13.1 Orthotics 13.2 Dementia	Lecture Lecture
14	14.1 Introduction to electrical stimulation 14.2 Functional electrical stimulation 2	Lecture Lecture
15	End semester revision week	
16	End semester written examination	

Course Assessment:

Assessment Method	Weightage	Week Due
Midterm Written Examinations	20%	Week 7
Quizzes	20%	
Poster presentation	20%	Week 4 & 11
Final Written Examinations	40%	Week 15
Total	100%	

Recommended Textbooks and Readings:

Required Resources:

1. Lennon, S., & Ramdharry, G., & Verheyden, G. (2018). *Pocket book of Neurological Physiotherapy* (2nd Ed). Elsevier.
2. Palisano, R. J., Schreiber J., & Orlin, M. N. (2018). *Campbell's Physical Therapy for Children* (5th ed). Missouri: Elsevier Saunders.
3. Levitt, S., & Addison, A. (2018). *Treatment of cerebral palsy and motor delay* (6th ed.). Oxford: John Wiley & Sons.
4. Bierman C. J. Franjoine R.M., Hazzard M. C., Howle M. J., Stamer M. (2016) *Neuro-Developmental treatment: A guide to NDT Clinical practice*, Thieme Publishers New York
5. Tecklin, J. (2015). *Paediatric physical therapy* (5th Ed.). Baltimore: Lippincott Williams & Wilkins
6. Bly L. (2011) *Components of Typical and Atypical Motor Development*, Neuro-Developmental Association, Inc. Kindle Edition
7. Carr, J., & Shepherd, R. (2010). *Neurological rehabilitation: optimizing motor performance* (2nd ed), Churchill Livingstone Elsevier.

Recommended Readings:

1. Lennon, S., & Ramdharry, G., & Verheyden, G. (2018). *Physical Management of Neurological Conditions* (4th Ed). Elsevier.
2. Larsen, D. S.N., Kegelmeyer, D. K., Buford, J. A., Kloos, A. D., Heathcock, J. C & Basso D M. (2016). *Neurologic Rehabilitation: Neuroscience and Neuroplasticity in Physical Therapy Practice* (1st Ed). McGraw- Hill Education.
3. Martin, S., & Kessler. (2015) *Neurological Interventions for Physical Therapy* (3rdEd). Elsevier.
4. Umphred, D. A., Lazaro, R. T., Roller, M. L., & Burton, G. U. (2012). *Umphred's Neurological Rehabilitation* (6th Edition), Mosby, Elsevier.
5. Morgan, P., Bernhardt, J., Campagna, E., & Gilmore, S. (2011). *Physiotherapy in acute neurological practice: An introductory guide for the clinician*. Melbourne, Australian Physiotherapy Association.
6. Hill, K., Denisenko, S., Miller, K., Clements, T., Batchelor, F. (2010). *Clinical Outcome Measurement in Adult Neurological Physiotherapy* (4th Ed). Melbourne, Australian Physiotherapy Association.
7. Carr, J., & Shepherd, R. (2003). *Stroke rehabilitation: guidelines for exercise and training to optimize motor skill*. Butterworth Heinemann.

PTY233 – Physiotherapy Practical 3 – Neurology & Paediatrics

Course Pre-Requisite: PTY112, PTY122, PTY132	Course Co-Requisite: PTY213, PTY223,
Credit Hours: 4	Semester/AY: 1/Year 2
Contact Hours: 8	Course Coordinator: Mrs. Sunitha B Mysore
Course Instructors: Abu Dhabi: Mrs. Sunitha B Mysore (sunitha.mysore@fchs.ac.ae) Ms. Dragana Djuric (dragana.djuric@fchs.ac.ae) Al Ain: Dr. Banu Balkhis (balkhis.shaik@fchs.ac.ae) Mr. Senthilnathan Ramakrishnan (senthilnathan.ramakrishnan@fchs.ac.ae)	

Course Description

This practical course continues to provide the knowledge and skills that underpin physiotherapy clinical practice and deals primarily with the neurological system. The aim of this practical course is to develop clinical competencies that are integral to physiotherapy practice. The course will focus on the practical skills including human biosciences, assessment, treatment and patient education in a range of neurological conditions, for both children and adults. The focus in this course is on the conditions related to brain injury and genetic conditions. The course incorporates the best available research evidence to develop neurological physiotherapy techniques.

This course extends to previously acquired skills in manual handling, postural assessment and electro-physical agents. This course aims to develop clinical competencies that are integral to physiotherapy practice. It will focus on the incorporation of the best available research evidence with the clinical reasoning skills of assessment, management, and evaluation for clients across the lifespan with conditions of the neurological system. The course extends previously acquired skills in manual handling, postural assessment, and clinical skills.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Revise relevant structure and function for physiotherapy assessment and management related to brain injury.
2. Relate relevant pathologies of both paediatric and adult brain injuries to physiotherapy management in order to demonstrate clinical reasoning skills.
3. Develop interviewing skills, exploring the history of presenting problem in a range of neurological conditions
4. Using ICF framework, apply basic assessment for central nervous system lesions and genetic conditions for both adult and paediatric population
5. Prescribe and apply appropriate physiotherapy management relevant to neurological patient for conditions related to genetic and central nervous system lesion.

6. Develop skills for safe physiotherapy techniques including therapeutic exercises and electro physical agents with appropriate manual handling for neurological conditions.

Course Outline:

Week No.	Topic/Content	Teaching Method
1	1.1 Introduction to Physiotherapy 3 NP 1.2 ICF framework guide 1.3 ICF framework guide 1.4 Skills Mastery	Practical
2	2.1 Small group learning: Infant reflexes and stereotyped movements. 2.2 Normal childhood development 2.3 Interviewing a patient with stroke 2.4 Skills Mastery	Practical
3	3.1: Anatomage session: Internal Anatomy of the Brain 3.2 Assessment and treatment of developmental delay 3.3 Physiotherapy assessment and management of stroke (acute) 3.4 Anatomage session: Internal Anatomy of the Brain	Practical
4	4.1 Introduction to Cerebral palsy (CP) 4.2 Physiotherapy assessment of Cerebral palsy 4.3 Physiotherapy management of stroke 4.4 Skill mastery	Practical
5	5.1 Practical session on supply systems of the Brain 5.2 Neuro-developmental approach of Cerebral Palsy 5.3 Assessment and treatment of gait in the person with hemiplegia 5.4 Skills Mastery	Practical
6	6.1 Tone abnormalities: Small group learning 6.2 Positioning, equipment for Cerebral palsy children	Practical

	6.3 Physiotherapy management of TBI 6.4 Skills Mastery	
7	7.1 Revision of paediatrics 7.2 Revision of neurological condition	
8	Mid-semester written and OSCE exam week	
9	9.1 Practical Session on Basal Ganglia 9.2 Assessment and management of Down syndrome 9.3 Physiotherapy assessment of Parkinson's disease 9.4 Skills Mastery	Practical
10	10.1 Motor learning and recovery of function: Group activity. 10.2 Alternative management in pediatric physiotherapy 10.3 Posture and gait in Parkinson's disease 10.4 Skills Mastery	Practical
11	11.1 Intellectual functions of the brain: Small group learning. 11.2 Outcome Measures 11.3 Circuit training/Treadmill training 11.4 Skills Mastery	Practical
12	12.1 Practical session on Cerebellum 12.2 Physiotherapy management of traumatic brain injury in children 12.3 Physiotherapy management of a person with ataxia 12.4 Skills Mastery	Practical
13	13.1 Upper limb and lower limb revision practical 13.2 Lower and upper limb orthosis 13.3 Management of patient with dementia 13.4 Skills Mastery	Practical
14	14.1 Physiology practical: Brain excitability and neuroplasticity. 14.2 Electrical stimulation 14.3 Functional electrical stimulation 14.4 Skills Mastery	Practical
15	End semester revision week	
16	End semester written examination	

Course Assessment:

Assessment Method	Weightage	Week Due
Mid-term Image exam	20%	Week 7
Mid-term practical exam	25%	Week 7
Final image exam	25%	Week 14
Final practical exam	30%	Week 14
Total	100%	

Recommended Textbooks and Readings:

Required Resources:

1. Lennon, S., & Ramdharry, G., & Verheyden, G. (2018). *Pocket book of Neurological Physiotherapy* (2nd Ed). Elsevier.
2. Palisano, R. J., Schreiber J., & Orlin, M. N. (2018). *Campbell's Physical Therapy for Children* (5th ed). Missouri: Elsevier Saunders.
3. Bierman C. J. Franjoine R.M., Hazzard M. C., Howle M. J., Stamer M. (2016) *Neuro-Developmental treatment: A guide to NDT Clinical practice*, Thieme Publishers New York
4. Bly L. (2011) *Components of Typical and Atypical Motor Development*, Neuro-Developmental Association, Inc. Kindle Edition
5. Carr, J., & Shepherd, R. (2010). *Neurological rehabilitation: optimizing motor performance* (2nd ed), Churchill Livingstone Elsevier.
6. Crossman, A. & Neary, D. (2010). *Neuroanatomy – An illustrated colour text*. 4TH ed. Edinburgh, Churchill Livingstone.
7. Silverthorn, D.U. (2010) *Human Physiology, An integrated Approach* (5th ed.), Pearson International Edition
8. Moore, K. L. & Dalley, A. F. (2010). *Clinically oriented anatomy*. (6th ed) Philadelphia: Lippincott Williams & Wilkins.
9. Levitt, S., & Addison, A. (2018). *Treatment of cerebral palsy and motor delay* (6th ed.). Oxford: John Wiley & Sons.
10. Hinchcliffe, A. (2007). *Children with Cerebral Palsy: A Manual for Therapists, Parents and Community Workers* (2nd edition). New Delhi: Vistaar Publications
11. Tecklin, J. (2015). *Paediatric physical therapy* (5th Ed.). Baltimore: Lippincott Williams & Wilkins.

Recommended Readings:

1. Lennon, S., & Ramdharry, G., & Verheyden, G. (2018). *Physical Management of Neurological Conditions* (4th Ed). Elsevier.
2. Larsen, D. S.N., Kegelmeyer, D. K., Buford, J. A., Kloos, A. D., Heathcock, J. C & Basso D M. (2016). *Neurologic Rehabilitation: Neuroscience and Neuroplasticity in Physical Therapy Practice* (1st Ed). McGraw- Hill Education.
3. Martin, S., & Kessler. (2015) *Neurological Interventions for Physical Therapy* (3rd Ed). Elsevier.
4. Harris, P. N. (2012). *Mosby's Dictionary of Medical, Nursing and Allied Health Professions* (9th Ed.). Elsevier Mosby.
5. Umphred, D. A., Lazaro, R. T., Roller, M. L., & Burton, G. U. (2012). *Umphred's Neurological Rehabilitation* (6th Edition), Mosby, Elsevier.

6. Morgan, P., Bernhardt, J., Campagna, E., & Gilmore, S. (2011). *Physiotherapy in acute neurological practice: An introductory guide for the clinician*. Melbourne, Australian Physiotherapy Association.
7. Hill, K., Denisenko, S., Miller, K., Clements, T., Batchelor, F. (2010). *Clinical Outcome Measurement in Adult Neurological Physiotherapy* (4th Ed). Melbourne, Australian Physiotherapy Association.
8. Eizenberg, N., Briggs, C. & Adams (2006) *General Anatomy - Principles and Applications*, Melbourne, Melbourne University Department of Anatomy & Cell Biology
9. Netter F. H. (2006) *Atlas of human anatomy* (4th ed). Philadelphia: Saunders Elsevier.
10. Carr, J., & Shepherd, R. (2003). *Stroke rehabilitation: guidelines for exercise and training to optimize motor skill*. Butterworth Heinemann.

SECOND YEAR

TERM 2

GRD251 – Introduction to Research and Biostatistics

Course Pre-Requisite: None	Course Co-Requisite: None
Credit Hours: 3	Semester / AY: 2/Year 2
Contact Hours: 3	Course Coordinator: Dr. Mustafa Alsaad
Course Instructors: Dr. Mustafa Alsaad, Dr. Mustafa El-Sanfaz and Mr. Mahmoud Bataineh Abu Dhabi: Mr. Mahmoud Bataineh (mahmoud.bataineh@fchs.ac.ae) Al Ain: Dr. Mustafa El-Sanfaz (Mustafa.El-Sanfaz@fchs.ac.ae)	

Course Description

This course introduces students to research and statistical methods used in health sciences. It covers elementary topics such as basic concepts of quantitative and qualitative techniques, research design and data collection, probability, and correlation. These topics enable students in identifying and conducting the appropriate statistical techniques in basic research settings and apply those to health-related context.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Describe the relevance of research in health sciences professional practice, including the concept of evidence-based practice, quantitative and qualitative research strategies, reliability and validity.
2. Describe how the measurement used for data collection influences the organization and presentation of the evidence.
3. Discuss the selection and use of measures of central tendency and variability.
4. Describe the characteristics normal and standard normal curves.
5. Explain the selection and calculation of correlation coefficients.
6. Examine how probability theory is applied to generating sampling distributions.

Course Outline:

Week No.	Topic/Content	Teaching Method
1	Orientation & Introduction <ul style="list-style-type: none">▪ Introduction to the course▪ Distribution of Course Outline and Workbook▪ Explanation of assessment criteria, student's responsibilities, and attendance policy	
	Module 1: Introduction to Research in the Health Sciences	

	Unit 1: (LO1) Basics of Scientific Method and Evidence-Based Health Care. Unit 2: (LO1) Research Methods and Health Research.	Class participation, demonstration, recitation, and memorization.
2	Unit 3: (LO1) Research Designs and Health Research.	Class participation, demonstration, recitation, and memorization.
3	Unit 4: (LO1) Data Collection Methods and Ethics in Research.	Class participation, demonstration, recitation, and memorization.
Module 2: Introduction to Biostatistics		
4	Chapter 13: (LO2) Organization and Presentation of Data – Part 1	Class participation, demonstration, recitation, and memorization.
5	Chapter 13: (LO2) Organization and Presentation of Data – Part 2	Class participation, demonstration, recitation, and memorization.
6	Chapter 14: (LO3) Measures of Central Tendency and Variability – Part 1	Class participation, demonstration, recitation, and memorization.
7	Chapter 14: (LO3) Measures of Central Tendency and Variability – Part 2	Class participation, demonstration, recitation, and memorization.
8	Midterm Examination Week (20%)	
9	Chapter 15: (LO4) Standard scores and normal curves – Part 1	Class participation, demonstration, recitation, and memorization.
10	Chapter 15: (LO4) Standard scores and normal curves – Part 2	Class participation, demonstration, recitation, and memorization.

11	Chapter 15: (LO4) Standard scores and normal curves – Part 3	Class participation, demonstration, recitation, and memorization.
12	Chapter 16: (LO5) Correlation – Part 1	Class participation, demonstration, recitation, and memorization.
13	Chapter 16: (LO5) Correlation – Part 2	Class participation, demonstration, recitation, and memorization.
14	Chapter 17: (LO6) Probability – Part 1	Class participation, demonstration, recitation, and memorization.
15	Chapter 17: (LO6) Probability – Part 2	Class participation, demonstration, recitation, and memorization.
16	Final Examination Week (40%)	

Course Assessment:

Assessment Method	Weightage	Week Due
Homework/ Assignments	20 %	Weeks 6 & 12
Quizzes	20 %	Weeks 4 & 10
Midterm Exam	20 %	Week 8
Final Exam	40 %	Week 15
Total	100%	

Required Textbooks and Recommended Readings:

Textbook:

Stephen Polgar & Shane A. Thomas (2013). *Introduction to Research in the Health Sciences*, 5th Ed. Elsevier.

Recommended Readings:

1. Medical and Health Statistics Made Easy by Michael Harris & Gordon Taylor.
2. A Beginner's Guide to Evidence-Based Practice in Health and Social Care Professions by Helen Aveyard & Pam Sharp.

GRD271 – Islamic Studies (Arabic)

مساق الزامي مصاحب: لا شيء	مساق متطلب سابق: لا شيء
العام الدراسي/ الفصل الدراسي: 20_2019 / الفصل الدراسي الأول	عدد الساعات المعتمدة: 3
منسق المساق: لوي جاتم	عدد ساعات التدريس الأسبوعية: 3
مدرسو المساق: أبو ظبي: لوي جاتم، (luay.janem@fchs.ac.ae) العين: لوي جاتم، (luay.janem@fchs.ac.ae)	

توصيف مساق الثقافة الإسلامية:

الثقافة الإسلامية علمٌ يهتم بمعرفة مقومات الدين الإسلامي ونظمه، والتحديات المعاصرة له. ومساق الثقافة الإسلامية محاضرات عامة في نظم الإسلام الكلية والقضايا المتعلقة بحضارته، كما يعالج قضايا فكرية هامة في العقيدة والشريعة والعبادات والأخلاق، ويركز بصفة أساسية على مظاهر الحضارة الإسلامية ومعطياتها، وما أسهمت به من معارف وعلوم كان لها الأثر الواضح في نهضة البشرية وتقدمها. ولا يغفل مساق الثقافة الإسلامية عن أن يسلط الضوء على المشكلات والتحديات التي تواجه الإنسانية بشكل عام، والمجتمعات والشعوب العربية والإسلامية بشكل خاص، وعلى الكيفية التي بها نواكب العصر ونتعايش معه ونتواصل مع ثقافة الآخرين ومعارفهم، وذلك من خلال إيجاد حَكَمٍ منطقي يدلنا على أن نأخذ ما صفا وأن ندع ما كدر.

المخرجات العامة لمساق الثقافة الإسلامية:

- يُنَوَّقُ - بعد دراسة المساق - أن يتمكن الطالب من :
- 1- إبراز أهمية الثقافة الإسلامية لتجديد الصلة بالإسلام وتحصين الإيمان والقيم من الغزو الفكري، ولمعرفة موقف الإسلام من قضايا العصر.
 - 2- التعرف على حقائق الإسلام وخصائصه، والتصور الإسلامي الصحيح عن الخالق والكون والحياة والإنسان.
 - 3- استيعاب مفهوم الثقافة الإسلامية، ومعرفة مجالاتها وخصائصها ومصادرها وأصولها، وتنمية شعور الولاء للوطن وللأمة الإسلامية.
 - 4- معرفة أثر الفكر الإسلامي وعلوم الحضارة الإسلامية على الفكر الإنساني والحضارات الإنسانية الأخرى.

خطة تدريس المساق :

الأسبوع	الموضوع/ المحتوى	منهجية التدريس
2-1	- الثقافة الإسلامية وحصانة الفكر والإيمان والقيم. كيف؟ ولماذا؟ الثقافة لماذا؟ وسائل بناء الثقافة، الغزو الثقافي، وسائله، طرق مواجهته	المحاضرة والإلقاء، المناقشة والحوار، الطريق الوصفية، الطريقة الاستنباطية، العرض، حل المشكلات
4-3	- مدخل إلى الثقافة الإسلامية: مخرجات الثقافة الإسلامية، مفهوم الثقافة الإسلامية، الثقافة الإسلامية والمفاهيم الأخرى، وظيفة الثقافة الإسلامية، مميزات الثقافة الإسلامية، مصادر الثقافة الإسلامية	المحاضرة والإلقاء، المناقشة والحوار، الطريقة الاستنباطية، حل المشكلات.

5	- أهمية التدين في حياة الإنسان: الحاجة إلى التدين، آثار العقيدة الإسلامية	المناقشة والحوار، الأسلوب القصصي، الطريقة الاستنباطية.
7-6	- التسامح الديني في الإسلام: مفهوم التسامح، حقوق المواطنين غير المسلمين، مبادئ التسامح العامة في الإسلام	المحاضرة والإلقاء، المناقشة والحوار، الطريقة الاستنباطية.
9-8	- النظام الصحي في الإسلام: رعاية النظام الصحي للفرد والمجتمع، النظام الصحي الوقائي في الإسلام، النظام العلاجي الصحي في الإسلام	المناقشة والحوار، الطريق الوصفية، الطريقة الاستنباطية، العرض، حل المشكلات
10	- مدخل إلى الحضارة الإسلامية-التعريف والمفهوم والخصائص: تعريف الحضارة الإسلامية ومفهومها، خصائص الحضارة الإسلامية	المحاضرة والإلقاء، الطريقة الوصفية، الطريقة الاستنباطية، حل المشكلات.
11	- من مظاهر حضارتنا1 في ميزان التفاضل والمسؤولية والعدل: ميزان التفاضل، المسؤولية، العدل، نماذج وتطبيقات عملية	العرض، الأسلوب القصصي، الطريقة الاستنباطية.
12	- من مظاهر حضارتنا2 في رعاية الإنسانية: رعاية الإنسانية في سيرة الرسول p، رعاية الإنسانية في سيرة الصحابة، رعاية الإنسانية في سيرة الخلفاء والأمرء، شهادات غير المسلمين في إنسانية الإسلام	العرض، الأسلوب القصصي، الطريقة الاستنباطية.
13	- من مظاهر حضارتنا3 في رعاية البيئة: رعاية البيئة في القرآن والسنة، رعاية البيئة في مسيرة الحضارة الإسلامية	العرض، الأسلوب القصصي، الطريقة الاستنباطية.
13	- من مظاهر حضارتنا4 في رعاية الحيوان: أحكام فقهية لحفظ حقوق الحيوان في الإسلام، رعاية الحيوان في سيرة الرسول p والصحابة والخلفاء والأمرء، دور الوقف الإسلامي في رعاية الحيوان	العرض، الأسلوب القصصي، الطريقة الاستنباطية.
15- 14	- من مظاهر حضارتنا5 في العلم: مفهوم العلم، التشجيع على العلم، مسيرة العلم عبر القرون عند المسلمين، منهج البحث العلمي التجريبي عند المسلمين، وعلماء المنهج التجريبي عند المسلمين، نماذج على الإنجازات العلمية في الحضارة الإسلامية، أشهر علماء الحضارة الإسلامية وأهم إنجازاتهم	المحاضرة والإلقاء، المناقشة والحوار، الطريقة الوصفية، حل المشكلات.
16	الامتحان النهائي	

الاختبارات الخاصة بالمساق:

نوع الاختبار	الوزن النسبي	الوقت الزمني/ الأسبوع
المشاركة التفاعلية	05%	طوال الفصل الدراسي
الأعمال والواجبات	10%	طوال الفصل الدراسي
الاختبارات القصيرة	20%	5 و 13
اختبار منتصف الفصل	25%	8
الاختبار النهائي	40%	16
المجموع	100%	

هذا يشمل كتاب المساق المعتمد ولا يعد هو المرجع الرئيس فقط؛ بالإضافة إلى المراجع المطبوعة وغير المطبوعة، والمقالات، وقواعد البيانات الإلكترونية.

الكتاب الرئيسي المعتمد: الثقافة الإسلامية، د. توفيق عمر بلطه جي، 2011م، نسخة إلكترونية، بي دي أف.

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28. حاضر العالم الإسلامي -لوثر وب وشكيب أرسلان
29. حاضر العالم الإسلامي وقضايا المعاصرة -جميل المصري
30. الحضارة العربية الإسلامية -الخبوطلي
31. الحضارة -د. حسين مؤنس -عالم المعرفة
32. الحضارة والثقافة -نصر محمد عارف
33. الحقوق والواجبات والعلاقات الدولية في الإسلام -د. محمد رأفت عثمان
34. خصائص الحضارة الإسلامية وآفاق المستقبل -د. عثمان التويجري
35. خصائص النظام الاقتصادي في الإسلام -د. زيد محمد الرماني
36. دور الحضارة العربية الإسلامية في النهضة الأوربية -هاني المبارك وشوقي أبو خليل
37. رسالة في الطريق إلى ثقافتنا -محمود محمد شاكر
38. سماحة الإسلام -د. عمر بن عبد العزيز قريشي
39. شروط النهضة -مالك بن نبي
40. صفحات مشرقة من الحضارة العربية -كاظم التميمي-الموسوعة الصغيرة العدد 97
41. صور من الحضارة العربية الإسلامية في سلطنة المماليك -د. حياة ناصر الحجى
42. صور من سماحة الإسلام -د. عبد العزيز الربيعة
43. الطب الوقائي في الإسلام -أحمد شوقي الفنجري

44. الطب محراب للإيمان -خالص جلبي.
45. الطب ورائداته المسلمات -عبد الله سعود السعيد
46. العلم يدعو للإيمان -كريسي موريسون
47. العلوم عند العرب -حربي عباس وحسان حلاق
48. الغارة على التراث الاسلامي-جمال سلطان
49. الغارة على العالم الاسلامي-شاتيله -يافي -محب الدين الخطيب
50. قانون السلام في الإسلام-د. محمد طلعت الغنيمي
51. القضايا الكبرى -مالك بن نبي
52. كيف تبني ثقافتك-علي العمري
53. لمحات في الثقافة الإسلامية -عمر عودة الخطيب
54. الله يتجلى في عصر العلم -مجموعة من المؤلفين
55. المجتمع الإنساني في ظل الإسلام -محمد أبو زهرة
56. محاضرات في الثقافة الإسلامية -مديرية الإفتاء الأردنية
57. محنة ثقافة مزورة -الصادق النيهوم
58. المدخل للثقافة الاسلامية -د. يعقوب المليجي
59. مشكلة الأفكار في العالم الإسلامي -مالك بن نبي
60. مشكلة الثقافة -مالك بن نبي
61. معالم الحضارة الإسلامية -مصطفى الشكعة
62. من روائع حضارتنا -مصطفى السباعي
63. منهج الحضارة الإنسانية في القرآن -د. محمد سعيد رمضان البوطي
64. موسوعة الحضارة العربية الإسلامية -المؤسسة العربية.
65. موسوعة عباقر الإسلام في العلم والفكر والأدب والقيادة -محمد أمين فرشوخ
66. نشوء الحضارة الإسلامية -أحمد القصص
67. النظام الاجتماعي في الإسلام -تقي الدين النبهاني
68. النظام الاقتصادي في الإسلام -تقي الدين النبهاني
69. وجهة العالم الإسلامي -مالك بن نبي

PTY214 – Human Biosciences 4 – Neurology & Paediatrics

Course Pre-Requisite: PTY213, PTY223, PTY233	Course Co-Requisite: PTY224, PTY234.
Credit Hours: 2	Semester/AY: 2/Year 2
Contact Hours: 2	Course Coordinator: Mr. Senthilnathan Ramakrishnan
Course Instructors: Abu Dhabi: Ms Ana Anjos (ana.anjos@fchs.ac.ae) Al Ain: Mr. Senthilnathan Ramakrishnan (senthilnathan.ramakrishnan@fchs.ac.ae)	

Course Description

This theoretical course is a continuation of the Human Biosciences 3 (neurology and paediatrics) course, and focuses on the structure, function and physiology of the neurological system, with specific emphasis to spinal cord and peripheral nervous system. This course also includes relevant Human Biosciences concepts as applicable to paediatric physiotherapy, both orthopaedic and neurological. The contents are designed to provide the knowledge and skills that underpin physiotherapy clinical practice. It includes a systems approach to Human Biosciences such as anatomy, physiology, pharmacology, pathology and psychology as well as physiotherapy clinical skills.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Explain the structure and function of the spinal cord and associated anatomical regions.
2. Describe the structure, function, and Physiology of nerve roots, plexus and peripheral nerves.
3. Describe the anatomy and physiology relevant to the paediatric orthopaedic and neurological conditions.
4. Describe the normal physiological processes of the peripheral neurological system.
5. Describe the pathology of peripheral nervous system diseases and their impact on motor and sensory function.
6. Explain the mechanisms of recovery in the peripheral nervous systems.
7. Explain the principles of pharmacological management of neurological disorders as applicable to peripheral and autonomic nervous systems.

Course Outline

WeekNo.	Topic/Content	Teaching Method
1	1.1 Lecture: Overview of neuroanatomy and neurophysiology	Lecture

	1.2 Lecture: Physiology of development and ageing (1): Fetal development	Lecture
2	2.1 Physiology lecture: Physiology of development and aging (2): Puberty 2.2 Neurophysiology: major plexus and peripheral nerves-1	Lecture Lecture
3	3.1 Neurophysiology: Dermatomes and myotomes 3.2 Neurophysiology: major plexus and peripheral nerves-2	Lecture Lecture
4	4.1 Anatomy Lecture: Principles of regions and review of the spine 4.2 Neurophysiology: Electromyography and nerve conduction studies.	Lecture Lecture
5	5.1 Muscle Physiology and neuromuscular junction 5.2 Principles of physical agents in rehabilitation	Lecture Lecture
6	6.1 Membrane potentials. 6.2 Nerve conduction	Lecture Lecture
7	7.1 Revision of paed's condition 7.2 Revision of neurological condition	Lecture Lecture
8	Mid-semester written and OSCE exam week	
9	9.1 Neuroanatomy lecture: Spinal cord 9.2 Neurophysiology: Corticospinal tract and other motor pathways (1)	Lecture Lecture
10	10.1 Neurophysiology: Corticospinal tract and other motor pathways (2) 10.2 Neurophysiology: Somatosensory pathways (1)	Lecture Lecture
11	11.1 Neurophysiology: Somatosensory pathways (2) 11.2 Neuroanatomy: Cranial nerves	Lecture Lecture
12	12. 1 Anatomy Lecture: The Orbit and Ear 12.2 Neurophysiology: Vestibular system (1), Physiologic neuroanatomy	Lecture Lecture
13	13.1 Neurophysiology of limbic system-1 13.2 Neurophysiology of Limbic system-2.	Lecture Lecture
14	14.1 Neurophysiology: Higher order cerebral function-1 14.2 Neurophysiology: Higher order cerebral function-2	Lecture Lecture
15	End semester revision week	
16	End semester written examination	

Course Assessment:

Assessment Method	Weightage	Week Due
Midterm Written Examinations	30%	Week 7
2 Quizzes	30%	Week 4 & 11
Final Written Examinations	40%	Week 15
Professional Conduct	Hurdle	Week 16
Attendance Record	Hurdle	Week 16
Total	100%	

Recommended Textbooks and Readings:

1. Larsen, D. S.N., Kegelmeyer, D. K., Buford, J. A., Kloos, A. D., Heathcock, J. C & Basso D M. (2016). Neurologic Rehabilitation: Neuroscience and Neuroplasticity in Physical Therapy Practice (1st Ed). McGraw- Hill Education.
2. Crossman, A. & Neary, D. (2010). Neuroanatomy – An illustrated colour text. 4TH ed. Edinburgh, Churchill Livingstone.
3. Eizenberg, N., Briggs, C. & Adams (2006) General Anatomy - Principles and Applications, Melbourne, Melbourne University Department of Anatomy & Cell Biology
4. Harris, P. N. (2012). Mosby's Dictionary of Medical, Nursing and Allied Health Professions (9th Ed.). Elsevier Mosby.
5. Moore, K. L. & Dalley, A. F. (2010). Clinically oriented anatomy.(6th ed) Philadelphia: Lippincott Williams & Wilkins.
6. Netter F. H. (2006) Atlas of human anatomy (4th ed). Philadelphia: Saunders Elsevier.
7. Silverthorn, D.U. (2010) Human Physiology, An integrated Approach (5th ed.), Pearson International Edition
8. Cassilhas, R. C., Tufik, S., & de Mello, M. T. (2016). Physical exercise, neuroplasticity, spatial learning and memory. Cell Mol Life Sci, 73(5), 975-983.

PTY224 – Physiotherapy Theory 4 – Neurology & Paediatrics

Course Pre-Requisite: PTY213, PTY223, PTY233	Course Co-Requisite: PTY214, PTY234
Credit Hours: 3	Semester/AY: 2/Year 2
Contact Hours: 3	Course Coordinator: Mrs. Sunitha B Mysore
Course Instructors: Abu Dhabi: Mrs. Sunitha B Mysore (Sunitha.mysore@fchs.ac.ae) Ms. Dragana Djuric (Dragana.djuric@fchs.ac.ae) Al Ain: Ms. Balkhis Banu (Balkhis.shaik@fchs.ac.ae)	

Course Description

This theoretical course continues to provide the knowledge and skills that underpin physiotherapy clinical practice and deals primarily with the neurological system. This course integrates the structure, function, and pathophysiology of the neurological system to have a deeper understanding of the various pathologies related to the peripheral nervous system, spinal cord. Applied practice will focus on a range of pathologies of the neurological system and their physiotherapy, medical and pharmacological management. The main aim of this course is to prepare students with basic knowledge and clinical reasoning skills in various clinical conditions.

This course aims to develop clinical competencies that are integral to physiotherapy practice. It will focus on the incorporation of the best available research evidence with the clinical reasoning skills of assessment, management, and evaluation for clients across the lifespan with conditions of the neurological system. The course extends previously acquired skills in manual handling, postural assessment, and clinical skills.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Explain the pathophysiological basis of common conditions related to the peripheral nervous system, spinal cord injuries both in adult and paediatric conditions.
2. Describe common orthopaedic pathologies in children.
3. Discuss the principles of recovery, assessment, and management of physiotherapy for the lesions related, spinal cord and peripheral system injury.
4. Discuss the physiotherapy assessment and management of common obstetrical and paediatric orthopaedic conditions.
5. Explore the role of physiotherapists in the prevention and management of falls in the elderly.
6. Outline the role of multidisciplinary team members involved in the care of neurological conditions in paediatric, adult and elderly.

Course Outline

Week No.	Topic/Content	Teaching Method
1	1.1 Introduction to orthopaedic paediatric conditions 1.2 LMN lesions	Lecture Lecture
2	2.1 Arthrogryposis 2.2 Peripheral neuropathies	Lecture Lecture
3	3.1 Congenital deformities of lower limb 3.2 Gullian Barre syndrome	Lecture Lecture
4	4.1 Torticollis 4.2 Peripheral nerve injury 4.3 Assessment (Quiz)	Lecture Lecture Quiz 1
5	5.1 Duchenne Muscular Dystrophy 5.2 Designing physiotherapy educational materials for patients with neurological conditions	Lecture Group presentation preparation
6	6.1 Introduction to Neuromuscular electrical stimulation 6.2 Management of pain in neurological conditions	Lecture Lecture
7	7.1 Revision of paed condition 7.2 Revision of neurological condition	Lecture Lecture
8	Mid-semester written exam	
9	9.1 Spinal bifida 9.2 Spinal cord injury (high level)	Lecture Lecture
10	10.1 Scoliosis 10.2 Spinal cord injury (low level)	Lecture Lecture
11	11.1 Obstetrical brachial plexus palsy 11.2 Cranial nerve disorders 11.3 Assessment (Quiz)	Lecture Lecture Quiz 2
12	12. 1 Multidisciplinary intervention in paediatrics 12.2 Vestibular rehabilitation	Lecture Lecture
13	13.1 Aging and Falls in the elderly 13.2 Motor neuron disease	Lecture Lecture

	13.3 Group presentations	Assessment : Group presentation
14	14.1 Clinical practice guidelines 14.2 Clinical practice guidelines in neurology	Lecture Lecture
15	End semester revision week	
16	End semester written examination	

Course Assessment

Assessment Method	Weightage	Week Due
Midterm Written Examinations	20%	Week 7
2 Quizzes	20%	Week 4 & 11
Group presentation (Education material)	20%	Week 13
Final Written Examinations	40%	Week 16
Total	100%	

Recommended Textbooks and Readings

Required Resources:

1. Lennon, S., & Ramdharry, G., & Verheyden, G. (2018). *Pocket book of Neurological Physiotherapy* (2nd Ed). Elsevier.
2. Palisano, R. J., Schreiber J., & Orlin, M. N. (2017). *Campbell's Physical Therapy for Children* (5th ed). Missouri: Elsevier Saunders.
3. Subharwal S.(2016) *Pediatric Lower Limb Deformities-Principals and Techniques of Management* Springer
4. Tecklin, J. (2015). *Paediatric physical therapy* (5th Ed.). Baltimore: Lippincott Williams & Wilkins.
5. Carr, J., & Shepherd, R. (2010). *Neurological rehabilitation: optimizing motor performance* (2nd ed), Churchill Livingstone Elsevier.

Recommended Readings:

1. Lennon, S., & Ramdharry, G., & Verheyden, G. (2018). *Physical Management of Neurological Conditions* (4th Ed). Elsevier.
2. Larsen, D. S.N., Kegelmeyer, D. K., Buford, J. A., Kloos, A. D., Heathcock, J. C & Basso D M. (2016). *Neurologic Rehabilitation: Neuroscience and Neuroplasticity in Physical Therapy Practice* (1st Ed). McGraw- Hill Education.
3. Martin, S., & Kessler. (2015) *Neurological Interventions for Physical Therapy* (3rdEd). Elsevier.
4. Umphred, D. A., Lazaro, R. T., Roller, M. L., & Burton, G. U. (2012). *Umphred's Neurological Rehabilitation* (6th Edition), Mosby, Elsevier.
5. Morgan, P., Bernhardt, J., Campagna, E., & Gilmore, S. (2011). *Physiotherapy in acute neurological practice: An introductory guide for the clinician*. Melbourne, Australian Physiotherapy Association.
6. Hill, K., Denisenko, S., Miller, K., Clements, T., Batchelor, F. (2010). *Clinical Outcome Measurement in Adult Neurological Physiotherapy* (4th Ed). Melbourne, Australian Physiotherapy Association.

PTY234 – Physiotherapy Practical 4 – Neurology & Paediatrics

Course Pre-Requisite: PTY213, PTY223, PTY233	Course Co-Requisite: PTY214, PTY224
Credit Hours: 4	Semester/AY: 2/Year 2
Contact Hours: 8	Course Coordinator: Mrs. Sunitha B Mysore
Course Instructors: Abu Dhabi: Mrs. Sunitha B Mysore (Sunitha.mysore@fchs.ac.ae) Ms. Dragana Djuric (Dragana.djuric@fchs.ac.ae) Al Ain: Dr. Banu Balkhis (Balkhis.shaik@fchs.ac.ae) Mr. Senthilnathan Ramakrishnan (Senthilnathan.ramakrishnan@fchs.ac.ae)	

Course Description

This practical course continues to provide the knowledge and skills that underpin physiotherapy clinical practice and deals primarily with the neurological system. This course integrates the structure, function, and pathophysiology of the neurological system to have a deeper understanding of the various pathologies mainly includes spinal cord, peripheral nervous system, musculoskeletal conditions and congenital paediatric conditions. Applied practice will focus on a range of pathologies of the neurological system and their physiotherapy, medical management for both adult and children.

This course aims to develop clinical competencies integral to physiotherapy practice.

This course will focus on the incorporation of the best available research evidence with the clinical reasoning skills of assessment, management, and evaluation for clients across the lifespan with conditions of the neurological and related paediatric orthopaedic conditions.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Revise relevant structure and function for physiotherapy assessment and management related to spinal cord and peripheral nerve injuries.
2. Relate pathologies related to spinal cord, peripheral nerve injury and congenital and orthopaedic paediatric conditions to physiotherapy management in order to demonstrate clinical reasoning skills.
3. Apply basic assessment and management of physiotherapy for spinal cord, peripheral nervous system, congenital and orthopaedic paediatric conditions.
4. Prescribe appropriate management plan relevant to neurological patient for older adults.
5. Develop skills for safe physiotherapy techniques including therapeutic exercises and electro physical agents with appropriate manual handling for neurological conditions.

6. Design and apply group exercises for various neurological conditions and for across all ages.

Course Outline

Week No.	Topic/Content	Teaching Method
1	1.1 Review exercise on organization of the nervous system 1.2 Review of Musculoskeletal assessment 1.3 Management of a weak patient 1.4 Skills Mastery	Practical
2	2.1 Practical session on major plexus and peripheral nerves 2.2 Assessment and treatment of Arthrogryposis Multiplex Congenital 2.3 Training of reach and grasp 2.4 Skills Mastery	Practical
3	3.1 Dermatomes and myotomes: small group learning and case discussion 3.2 Management of lower limb congenital deformities 3.3 Physiotherapy management of Guillain Barre syndrome 3.4 Skills Mastery	Practical
4	4.1 Review of spinal column and spinal regions 4.2 Assessment and management of Congenital Muscular Torticollis 4.3 Physiotherapy management of peripheral nerve injuries –Eg: Wrist drop, foot drop 4.4 Skills Mastery	Practical
5	5.1 PhysioEx practical session on excitable tissues. 5.2 Assessment and management of Duchene Muscular Dystrophy 5.3 Practical application of TENS and other electro-physical agents to reduce pain in neurological conditions 5.4 Skills Mastery	Practical

6	6.1 Physio Ex practicum: Membrane potentials and nerve conduction 6.2 Application of NMES (Upper limb and face) 6.3 Application of NMES (Lower limb) 6.4 Skills Mastery	Practical
7	7.1 Revision of paediatrics 7.2 Revision of neurological condition	
8	Mid-semester Practical and Image exam	
9	9.1 Spinal cord: Practical 9.2 Assessment and management of Spina Bifida 9.3 Wheelchair skills training 9.4 Skills Mastery	Practical
10	10.1 Motor and somatosensory pathways: Small group learning. 10.2 Assessment and Management of Scoliosis 10.3 Management of person with spinal cord injury 10.4 Skills Mastery	Practical
11	11.1 Anatomage session on cranial nerves 11.2 Assessment and management of Obstetrical brachial plexus injury 11.3 Physiotherapy treatment of facial nerve palsy and trigeminal neuralgia 11.4 Skills Mastery	Practical
12	12.1 Practicals on Orbit and Ear. 12.2 Outcomes measures in paediatric 12.3 Vestibular rehabilitation 12.4 Skills Mastery	Practical
13	13.1 Limbic system practical on Anatomage. 13.2 Designing group exercises 13.3 Application of group exercises for the elderly 13.4 Application of group exercises to other neurological conditions	Practical
14	14.1 Higher order cerebral functions: Review exercises. 14.2 Clinical scenarios 14.3 Clinical scenarios 14.4 Skills Mastery	Practical

15	Final practical exam	
16	Final image exam	

Course Assessment

Assessment Method	Weightage	Week Due
Mid-term Image exam	20%	Week 8
Mid-term practical exam	25%	Week 8
Final practical exam	30%	Week 15
Final image exam	25%	Week 16
Total	100%	

Recommended Textbooks and Readings

Required Resources:

1. Lennon, S., & Ramdharry, G., & Verheyden, G. (2018). *Pocket book of Neurological Physiotherapy* (2nd Ed). Elsevier.
2. Palisano, R. J., Schreiber J., & Orlin, M. N. (2017). *Campbell's Physical Therapy for Children* (5th ed). Missouri: Elsevier Saunders.
3. Subharwal S.(2016) *Pediatric Lower Limb Deformities- Principals and Techniques of Management* ,Springer
4. Carr, J., & Shepherd, R. (2010). *Neurological rehabilitation: optimizing motor performance* (2nd ed), Churchill Livingstone Elsevier.
5. Crossman, A. & Neary, D. (2010). *Neuroanatomy – An illustrated colour text*. 4TH ed. Edinburgh, Churchill Livingstone.
6. Moore, K. L. & Dalley, A. F. (2010). *Clinically oriented anatomy*.(6th ed) Philadelphia: Lippincott Williams & Wilkins.
7. Silverthorn, D.U. (2010) *Human Physiology, An integrated Approach* (5th ed.), Pearson International Edition
8. Tecklin, J. (2008). *Paediatric physical therapy* (4th Ed.). Baltimore: Lippincott Williams & Wilkins.

Recommended Readings:

1. Lennon, S., & Ramdharry, G., & Verheyden, G. (2018). *Physical Management of Neurological Conditions* (4th Ed). Elsevier.
2. Larsen, D. S.N., Kegelmeyer, D. K., Buford, J. A., Kloos, A. D., Heathcock, J. C & Basso D M. (2016). *Neurologic Rehabilitation: Neuroscience and Neuroplasticity in Physical Therapy Practice* (1st Ed). McGraw- Hill Education.
3. Martin, S., & Kessler. (2015) *Neurological Interventions for Physical Therapy* (3rdEd). Elsevier.
4. Hill, K., Denisenko, S., Miller, K., Clements, T., Batchelor, F. (2010). *Clinical Outcome Measurement in Adult Neurological Physiotherapy* (4th Ed). Melbourne, Australian Physiotherapy Association.
5. Umphred, D. A., Lazaro, R. T., Roller, M. L., & Burton, G. U. (2012). *Umphred's Neurological Rehabilitation* (6th Edition), Mosby, Elsevier.
6. Harris, P. N. (2012). *Mosby's Dictionary of Medical, Nursing and Allied Health Professions* (9th Ed.). Elsevier Mosby.

7. Morgan, P., Bernhardt, J., Campagna, E., & Gilmore, S. (2011). *Physiotherapy in acute neurological practice: An introductory guide for the clinician*. Melbourne, Australian Physiotherapy Association.
8. Eizenberg, N., Briggs, C. & Adams (2006) General Anatomy - Principles and Applications, Melbourne, Melbourne University Department of Anatomy & Cell Biology
9. Netter F. H. (2006) Atlas of human anatomy (4th ed). Philadelphia: Saunders Elsevier.

SECOND YEAR

TERM 3

PTY252 – Clinical Placement 2

Course Pre-Requisite: PTY213, PTY223, PTY233, PTY214, PTY224, PTY234	Course Co-Requisite: PTY242
Credit Hours: 3	Semester/AY: 3/Year 2
Contact Hours: 18	Course Coordinator: Malarkodi Rajendran
Course Instructors: Abu Dhabi: Clinical Supervisors Al Ain: Clinical Supervisors	

Course Description

This 8-week summer course at the end of the second year is primarily comprised of 18 hours of clinical placement per week in neuro-paediatric stream. This course also continues to build on the clinical skills developed on musculoskeletal practice during Clinical Placement 1. Students undertake fully-supervised clinical attachments during this course, providing them with the opportunity to develop basic skills in physiotherapy practice in clinical settings and link knowledge and skills developed from the first and second-year courses.

Course Learning Outcomes

On completion of this course, it is expected that the student will be able to:

1. Demonstrate effective communication appropriate to clients, caregivers, supervisors and professional colleagues.
2. Apply safe practice in health care to minimize risk by utilizing safe moving and handling techniques, including environmental safety.
3. Embody the role of physiotherapy in the management of people with neurological and musculoskeletal conditions in both adults and children.
4. Demonstrate application of therapeutic modalities and techniques in the treatment of common neurological conditions and musculoskeletal conditions.
5. Document accurately and succinctly the physiotherapy assessment and interventions applied to patients.
6. Demonstrate ethical practice with consideration of the rights and responsibilities of students, clinicians, patients and carers.

Course Outline:

Week No.	Topic/Content	Teaching Method
1	Clinical Placement in neuro- paediatric conditions	Observation and shadowing
2	Clinical Placement in neuro- paediatric conditions	Observation and shadowing
3	Clinical Placement in neuro- paediatric conditions	Supervised clinical practice
4	Mid-semester assessment	Formative assessment and feedback on clinical practice
5	Clinical Placement in neuro- paediatric conditions	Minimal supervised clinical practice
6	Clinical Placement in neuro- paediatric conditions	Supervised clinical practice
7	Clinical Placement in neuro- paediatric conditions	Independent clinical practice
8	Final-semester assessment	Summative assessment and feedback on clinical practice

Course Assessment:

Assessment Method	Weightage	Week Due
Reflective Portfolio	Pass/Fail	Week 8
Competency/SkillsMastery Checklist	Pass/Fail	Week 8
Learning needs form	Hurdle	Week 1
Clinical log	Hurdle	Weekly
Total	Pass/Fail	

Recommended Textbooks and Readings:

1. Carr, J., & Shepherd, R. (2010). *Neurological rehabilitation: optimizing motor performance* (2nd ed), Churchill Livingstone, Elsevier.
2. Lennon, S., & Ramdharry, G., & Verheyden, G. (2018). *Pocket book of Neurological Physiotherapy* (2nd Ed). Elsevier.
3. Levitt, S., & Addison, A. (2010). *Treatment of cerebral palsy and motor delay* (5th ed.). Oxford: John Wiley & Sons.
4. Magee, D.J. (2014). *Orthopaedic Physical Assessment* (6th ed). Missouri: Saunders Elsevier.
5. Palisano, R. J., Schreiber J., & Orlin, M. N. (2017). *Campbell's Physical Therapy for Children* (5th ed). Missouri: Elsevier Saunders.
6. Tecklin, J. (2008). *Paediatric physical therapy* (4th Ed.). Baltimore: Lippincott Williams & Wilkins.
7. Umphred, D. A., Lazaro, R. T., Roller, M. L., & Burton, G. U. (2012). *Umphred's Neurological Rehabilitation* (6th Edition), Mosby, Elsevier.

8. Belanger, A. (2014). *Therapeutic Electrophysical Agents: Evidence-Based Practice* (3rd ed). Philadelphia: Lippincott Williams & Wilkins.
9. Carr, J., & Shepherd, R. (2003). *Stroke rehabilitation: guidelines for exercise and training to optimize motor skill*. Butterworth Heinemann.
9. Hill, K., Denisenko, S., Miller, K., Clements, T., Batchelor, F. (2010). *Clinical Outcome Measurement in Adult Neurological Physiotherapy* (4th Ed). Melbourne, Australian Physiotherapy Association.
10. Kisner, C. & Colby, L.A. (2012). *Therapeutic Exercise: Foundations and Techniques* (6th ed). Philadelphia: FA Davis.
11. Morgan, P., Bernhardt, J., Campagna, E., & Gilmore, S. (2011). *Physiotherapy in acute neurological practice: An introductory guide for the clinician*. Melbourne, Australian Physiotherapy Association.
12. Pountney, T. (2007). *Physiotherapy for Children*. Edinburgh: Elsevier.

PTY242 – Integrated Evidence Based Practice 2

Course Pre-Requisite: PTY213, PTY223, PTY233, PTY214, PTY224, PTY234.	Course Co-Requisite: PTY252
Credit Hours: 2	Semester/AY: 3/Year 2
Contact Hours: 4	Course Coordinator: Senthilnathan Ramakrishnan
Course Instructors: Abu Dhabi: Senthilnathan Ramakrishnan (Senthilnathan.ramakrishnan@fchs.ac.ae) Al Ain: Senthilnathan Ramakrishnan (Senthilnathan.ramakrishnan@fchs.ac.ae)	

Course Description

Physiotherapists in neurological practice see a diverse range of patients with acute, chronic or progressive neurological conditions. In this semester, Integrated Evidence Based Practice 2 (IEBP) will use Case Based Learning (CBL) scenarios and Clinical Practice Guidelines (CPG) to provide the basis for several key concepts in the curriculum. The student will have the opportunity to link commonly seen neurological pathologies, in children and adults, with assessment tools, clinical reasoning and physiotherapy treatments. This will enable the integration of neurological physiotherapy skills into the overall medical, pharmacological and psychosocial management of the patient. This course will focus on further developing effective communication skills with clients who present with neurological conditions across the lifespan, their careers and other health care professionals. It will continue to support the development of clinical effectiveness and inter-professional functioning through reflective practice and skills in teamwork.

Examinable objectives will be found within CBL materials. The Weekly Study Guide provides an outline of the objectives to be undertaken for each week. It also refers students to excellent resources to further enhance the learning process.

Course Learning Outcomes

By the end of this course, it is expected that the student will be able to:

1. Analyse cases and CPG's associated with neurologic and paediatric conditions.
2. Identify and discuss the issues surrounding care and treatment of the patient with stable or progressive neurological disease and integrate knowledge from a range of sources to enable clinical decision making about specific neurological cases, the intervention, the client/ patient's experience, the diagnosis and the prognosis.
3. Describe the roles and responsibilities of the physiotherapist and other members of the health care team in the management of the patient with stable or progressive neurological disease, in adults and children.
4. Develop a range of tertiary level study skills including effective use of the library and information technology in producing academic work, such as CPG.
5. Demonstrate active and mutual learning with peers and develop oral presentation skills for case presentation as well documentation through the elaboration of SOAP Notes.
6. Work collaboratively in small learning groups and recognise the factors determining effective teamwork.

Course Outline

Week No.	Topic/Content	Teaching Method
1	Case 1: Stroke	Case Based Learning with small group tutorials
	Case 2: Traumatic Brain Injury	Case Based Learning with small group tutorials
2	Case 3: Parkinson's Disease	Case Based Learning with small group tutorials
	Case 4: Multiple Sclerosis	Case Based Learning with small group tutorials
3	Case 5: Cerebellar dysfunction	Case Based Learning with small group tutorials
	Case 6: Guillain Barrie Syndrome	Case Based Learning with small group tutorials
4	Mid-semester Exam	
5	Case 7: Spinal Cord Injury	Case Based Learning with small group tutorials
	Case 14: Radiculopathy	Case Based Learning with small group tutorials
6	Case 8: Cerebral Palsy	Case Based Learning with small group tutorials
	Case 9: Spina Bifida	Case Based Learning with small group tutorials
7	Case 10: Duchenne Muscular Dystrophy	Case Based Learning with small group tutorials
	Case 11: Erb's Palsy	Case Based Learning with small group tutorials
8	End-semester Exam	

Course Assessment

Assessment Method	Weightage	Week Due
CBL Learning and Performance Summative assessment of students' performance in CBL throughout semester	30%	Weekly
Mid-semester written examination	30%	Week 8
End semester written examination	40%	Week 16
Total	100%	

Recommended Textbooks and Readings

1. Carr, J., & Shepherd, R. (2010). *Neurological rehabilitation: optimizing motor performance* (2nd ed), Churchill Livingstone Elsevier.
2. Hinchcliffe, A. (2003). *Children with Cerebral Palsy: A Manual for Therapists, Parents and Community Workers*. New Delhi: Vistaar Publications.
3. Lennon, S., & Ramdharry, G., & Verheyden, G. (2018). *Pocket book of Neurological Physiotherapy* (2nd Ed). Elsevier.

4. Levitt, S., & Addison, A. (2010). *Treatment of cerebral palsy and motor delay* (5th ed.). Oxford: John Wiley & Sons.
5. Palisano, R. J., Schreiber J., & Orlin, M. N. (2017). *Campbell's Physical Therapy for Children* (5th ed). Missouri: Elsevier Saunders.
6. Tecklin, J. (2008). *Paediatric physical therapy* (4th Ed.). Baltimore: Lippincott Williams & Wilkins.
7. Hill, K., Denisenko, S., Miller, K., Clements, T., Batchelor, F. (2010). *Clinical Outcome Measurement in Adult Neurological Physiotherapy* (4th Ed). Melbourne, Australian Physiotherapy Association.
8. Larsen, D. S.N., Kegelmeyer, D. K., Buford, J. A., Kloos, A. D., Heathcock, J. C & Basso D M. (2016). *Neurologic Rehabilitation: Neuroscience and Neuroplasticity in Physical Therapy Practice* (1st Ed). McGraw- Hill Education.
9. Martin, S., & Kessler. (2015) *Neurological Interventions for Physical Therapy* (3rdEd). Elsevier.
10. Morgan, P., Bernhardt, J., Campagna, E., & Gilmore, S. (2011). *Physiotherapy in acute neurological practice: An introductory guide for the clinician*. Melbourne, Australian Physiotherapy Association.
11. Umphred, D. A., Lazaro, R. T., Roller, M. L., & Burton, G. U. (2012). *Umphred's Neurological Rehabilitation* (6th Edition), Mosby, Elsevier.

THIRD YEAR

TERM 1

PTY315 – Human Biosciences 5

Course Pre-Requisite: PTY214, PTY224, PTY234	Course Co-Requisite: PTY325, PTY335, GRD251
Credit Hours: 3	Semester/AY: 1/Year 3
Contact Hours: 3	Course Coordinator: Mrs. Ana Anjos
Course Instructors: Abu Dhabi: Mrs. Ana Anjos (ana.anjos@fchs.ac.ae) Al Ain: Dr. Balkhis Banu (Balkhis.Shaik@fchs.ac.ae)	

Course Description

This course aims to provide the knowledge and skills that underpin physiotherapy practice in cardiovascular and respiratory conditions. It includes a systems approach to Human Biosciences that focusses on the anatomy and physiology and the pathophysiology of the cardiovascular and respiratory system including the applied anatomy. In addition, this course will provide an overview of the pharmacological management of people with cardiovascular and respiratory problems.

The curriculum content delivered throughout the Human Biosciences 5: Medical and surgical conditions 1 is intended to support Physiotherapy Practice 5 and Physiotherapy Theory 5 that will be delivered concurrently during the semester 1 of Year 3 of the Physiotherapy program.

Course Learning Outcomes

On completion of this course it is expected that the student will be able to:

1. Describe the structure and function of the heart and pericardium.
2. Identify the components of circulatory system and describe their function.
3. Describe the phases of cardiac cycle and link it to the findings of ECG.
4. Describe the structure and function of the upper and lower respiratory tracts.
5. Discuss the role of upper and lower respiratory tracts in gas exchange.
6. Discuss the role of nervous system in regulation of respiration and cardiovascular functions.
7. Discuss the applied aspects of cardiovascular and respiratory systems including the congenital and acquired cardiovascular and respiratory conditions.
8. Explain adaptations of the cardiovascular and respiratory systems to exercise.

Course Outline:

Week No.	Topic/Content	Teaching Method
1	Unit 1:	
	1.1 – Anatomy lecture: The thoracic walls 1.2 – Cardiovascular Physiology: Introduction to Cardiorespiratory physiology – Circulation and respiration 1.3 – Cardiovascular Physiology: The heart as a pump	Lectures
2	Unit 2:	
	2.1 – Anatomy lecture: The thoracic cavity and the heart 2.2 – Cardiovascular Physiology: Rhythmical excitation of the heart & electrocardiogram	Lectures
3	Unit 3:	
	3.1 – Anatomy lecture: The supply systems of the heart 3.2 – Cardiovascular Physiology: Blood and hemostasis	Lectures
4	Unit 4:	
	4.1 – Anatomy lecture: The superior and posterior mediastina 4.2 – Cardiovascular Physiology: Control of output and the cardiac cycle, arteries and blood pressure 4.3 – Arterial Blood Gases	Lectures
5	Unit 5:	
	5.1 – Anatomy lecture: The lungs and the pleura 5.2 - Cardiovascular Physiology: Venous return and capillary exchange	Lectures
6	Unit 6:	
	6.1 – Cardiovascular Physiology: Normal cardiovascular responses to exercise 6.2 – Cardiovascular Physiology: Cardiovascular responses to exercise with cardiac disease	Lectures
7	Mid-semester revision week	
8	Mid-Term Exams	
9	Unit 8:	
	8.1 – Anatomy lecture: The upper airways 8.2 – Respiratory physiology: Pulmonary Ventilation 1 8.3 – Respiratory physiology: Pulmonary Ventilation 2	Lectures
10	Unit 9:	
	9.1 – Respiratory Physiology: Principles of gas exchange 9.2 – Respiratory Physiology: Transport of gas in blood 9.3 – Respiratory Physiology: Regulation of respiration	Lectures
11	Unit 10:	
	10.1 – Cardiorespiratory Physiology: cardiovascular responses to exercise with respiratory disease 10.2 – Pharmacology lecture: Vasodilator drugs	Lectures
	Unit 11:	

12	11.1 – Cardiorespiratory Physiology: cardiovascular responses to exercise with respiratory disease 11.2 – Pharmacology lecture: cardiac drugs	Lectures
13	Unit 12:	
	12.1 – Pharmacology lecture: Respiratory drugs 12.2 – Pharmacology lecture: Analgesic drugs 12.3 – Pharmacology lecture: Blood drugs	Lectures
14	Final Revision week	
15	Final Exams	

Course Assessment

Assessment Method	Weightage	Week Due
Midterm Written Exam	30%	Week 8
Quizzes	30%	Week 5 and 11
Final Written Exam	40%	Week 15
Total	100%	

Recommended Textbooks and Readings

1. Moore, K. L. & Dalley, A. F. (2010). *Clinically oriented anatomy* (6th ed) Philadelphia: Lippincott Williams & Wilkins.
2. Silverthorn, D.U (2010) *Human Physiology: an integrated approach*. (5th Ed) San Francisco: Pearson Benjamin Cummings
3. Eizenberg, N., Briggs, C., Adams, C. and Ahern, G. (2008) *An @tomedica: General Anatomy - Principles and Applications*. Melbourne: McGraw-Hill.
4. Netter F. H. (2006) *Atlas of human anatomy* (4th ed). Philadelphia: Saunders Elsevier.
5. Agur, A. M. R. and Dalley, A.F. (2005) *Grant's atlas of anatomy* (11th ed). Philadelphia: Lippincott Williams & Wilkins
6. Brooks, G. A. (2005). *Exercise physiology: human bioenergetics and its applications* (4th Ed.). McGraw-Hill.
7. Hall, J. (2010). *Guyton and Hall Textbook of Medical Physiology* (12th Ed.). Elsevier Mosby Saunders.
8. Harris, P. N. (2012). *Mosby's Dictionary of Medical, Nursing and Allied Health Professions* (9th Ed.). Elsevier Mosby.
9. West, J. (2011). *Respiratory Physiology: The Essentials*. Lippincott Williams

PTY325 – Physiotherapy Theory 5 – Medical & Surgical Conditions

Course Pre-Requisite: PTY214, PTY224, PTY234	Course Co-Requisite: PTY315, PTY335, GRD251
Credit Hours: 3	Semester/AY: 1/Year 3
Contact Hours: 3	Course Coordinator: Mrs. Ana Anjos
Course Instructors: Abu Dhabi: Mrs. Ana Anjos (ana.anjos@fchs.ac.ae) Al Ain: Dr. Balkhis Banu (Balkhis.Shaik@fchs.ac.ae)	

Course Description

This course continues to provide and further develop the knowledge and skills that underpin physiotherapy clinical practice. Applied practice will consolidate core areas across a range of pathologies including the relevant physiotherapy, medical and pharmacological management. The semester will also introduce several 'specialty areas' of clinical practice.

This course aims to further develop clinical competencies integral to physiotherapy practice. It focuses on the incorporation of the best available research evidence with the clinical reasoning skills of assessment, management and evaluation for clients across the lifespan. This course also focuses on 'specialty areas' such as orthopaedic surgeries, ergonomics; chronic pain; medical and surgical cases; rheumatology; and extends previously acquired skills in manual handling, postural assessment, electro physical agents, and clinical learning.

Course Learning Outcomes

On completion of this course it is expected that the student will be able to:

1. Use as a tool the techniques in Occupational Physical Therapy and Ergonomics, fundamental in the competent intervention; elaborate labor gymnastic programs; prepare ergonomic reports, in the rehabilitation of the injured worker; identify the main adaptations that occurred in the body of the individual during the work; understand the pathophysiology of the main injuries that affect the worker; understand the importance of adapting the work to the man in its preventive and facilitative character.
2. Develop skills and abilities in Clinical Reasoning in Orthopaedic Surgical Conditions;
3. Understand different painful mechanisms in addition to the biomechanical ones, and how to deal with rheumatic and chronic pain patients; to plan and analyse their rehabilitation process; interpret the pain and associated neurophysiological mechanisms, which will serve as the basis for all its clinical reasoning and therapeutic intervention

4. Identify the trigger points, perform its differential diagnosis and understand how it can potentiate the return of muscle function using the most appropriate and validated techniques for the result.
5. Describe the components of cardiovascular and respiratory conditions and its implications for physiotherapy practice and discuss the principles of recovery, assessment, and management of physiotherapy cardiovascular and respiratory conditions.
6. Understand the basic physiological and pathophysiological mechanisms that involve cardiovascular and respiratory diseases, as well as the proposed treatments; and to interpret complementary clinical and laboratory tests.

Course Outline

Week No.	Topic/Content	Teaching Method
1	Unit 1: Ergonomics	
	1.1 – Ergonomics and its main applications; The Basics of Biomechanics 1.2 – Fundamentals of ergonomics and occupational biomechanics	Lectures
2	Unit 2: Ergonomics	
	2.1 - Ergonomic Layout Organization 2.2 - Ergonomics in Work Method and Production Systems 2.3 - Ergonomics in the Prevention of Human Failure	Lectures
3	Unit 3: Orthopaedic surgical conditions	
	a. – Total Hip Replacement/ Total Knee Replacement b. – Anterior Cruciate Ligament	Lectures
4	Unit 4: Chronic Pain	
	4.1 – Physiology of pain/Mechanism of pain and their classification 4.2 – Evaluation of pain/The Pain and Motion Reasoning Model	Lectures
5	Unit 5: Rheumatology	
	5.1 – Rheumatic diseases 5.2 – Physiotherapeutic Resources in Rheumatology	Lectures
6	Unit 6: Dry-needling	
	6.1 – Basics of dry-needling 6.2 - Dry-needling treatment of the upper/lower limb/trunk 6.3 – Different techniques of dry-needling	Lectures
7	Mid-semester revision week	
8	Mid-Term Exams	
9	Unit 7: Cardiorespiratory	
	7.1 – Introduction to Cardiorespiratory Physiotherapy/Cardiorespiratory assessment 7.2 – Cardiology	Lectures
	Unit 8: Cardiorespiratory	

10	8.1 – Physiotherapy for Cardiac Surgery/Post-operative pain and analgesia 8.2 – Introduction to oxygen therapy and humidification/Introduction to NIV	Lectures
11	Unit 9: Cardiorespiratory	
	9.1 – Pleura disease/Chest trauma 9.2 – Obstructive and restrictive Lung Disease /Dyspnoea	Lectures
12	Unit 10: Cardiorespiratory	
	10.1 – Infective lung disease//Suppurative lung disease 10.2 – Effects of positioning and mobilization on the cardiorespiratory system/Airway clearance techniques	Lectures
13	Unit 11: Cardiorespiratory	
	11.1 – Tracheostomies/Artificial airway suctioning 11.2 – Pulmonary rehabilitation 11.3 - Physiotherapy and Thoracic surgery	Lectures
14	Final Revision week	
15	Final Exams	

Course Assessment

Assessment Method	Weightage	Week Due
Midterm Exam	40%	Week 7
Quiz	20%	Week 4 and 11
Final Exam	40%	Week 15
Total	100%	

Recommended Textbooks and Readings:

1. Neumann, D. A. (2016). Kinesiology of the Musculoskeletal System: Foundations for Rehabilitation (3rd ed.). Mosby.
2. Dziedzic, K., Hammond, A. (2010). Rheumatology: Evidence-Based Practice for Physiotherapist and Occupational Therapists (1st ed.). Churchill Livingstone
3. Hakim, A., Clunie, G., Haq, I. (2012). Oxford Handbook of Rheumatology (Oxford Medical Handbooks) (2012) (3rd ed.). Oxford University Press
4. Porter, S. B. (2013). Tidy's physiotherapy (15th ed.). Edinburgh: Saunders Elsevier.
5. Donnelly, J. M., Fernandez-da-Las-Penas, C., Finnegan, M., Freeman, J. L. (2018). Myofascial Pain and Dysfunction. The trigger point manual (3rd ed.). Wolters Kluwer
6. Lesondak, D., Thomas, W., (2017) Fascia, what it is and why it matters (1st ed.) Handspring Pub Ltd.
7. Dommerholt, J., Fernandez-de-Las-Penas, C. (2018). Trigger point. Dry needling. An evidence approach and clinical-based approach (2nd ed.). Elsevier
8. Pryor, J. A. & Prasad, S. A. (Eds.). (2014). Physiotherapy for respiratory and cardiac problems (4th ed.). Edinburgh: Churchill Livingstone/Elsevier.
9. O'Young, B. J., Young, M. A., & Stiens, S. A. (2008). Physical medicine and rehabilitation secrets (3rd ed.). Philadelphia, PA: Mosby Elsevier.
10. Rothrock, J. C., & McEwen, D. R. (Eds.). (2007). Alexander's care of the patient in surgery (13th ed.). St. Louis, MO: Mosby/Elsevier.

11. Wyka, K. A., Mathews, P. J., & Rutkowski, J. A. (2012). Foundations of respiratory care (2nd ed.). Australia: Delmar Cengage Learning.
12. Main, E., Denehy, L. (2016). Cardiorespiratory Physiotherapy: Adults and Paediatrics. Elsevier
13. Solomen, S., Aaron, P. (2017) Techniques in cardiopulmonary Physiotherapy. Peepee publishers

PTY335 – Physiotherapy Practical 5 – Medical & Surgical Conditions

Course Pre-Requisite: PTY214, PTY224, PTY234	Course Co-Requisite: PTY315, PTY325, GRD251
Credit Hours: 4	Semester/AY: 1/Year 3
Contact Hours: 8	Course Coordinator: Mrs. Ana Anjos
Course Instructors: Abu Dhabi: Mrs. Ana Anjos (ana.anjos@fchs.ac.ae) Al Ain: Dr. Balkhis Banu (balkhis.shaik@fchs.ac.ae)	

Course Description

This course continues to provide learning opportunities in application of theoretical concepts to the practice of physiotherapy.

The objectives in this course are designed to build upon the novice/lower level knowledge and skills that characterize the earlier years of the Physiotherapy Program. The courses objectives reflect higher order knowledge and skills appropriate to more complex teaching input and an extended clinical attachment.

The curriculum content delivered throughout the Physiotherapy Practice 5: Medical and surgical conditions practical 1 is intended to complement other Medical and surgical conditions practical 2 course curricula that will be delivered concurrently throughout the second semester of Year 3 of the Physiotherapy program.

Course Learning Outcomes

On completion of this course it is expected that the student will be able to:

1. Recall relevant structure and function for physiotherapy assessment and management; restate the underlying principles of physiotherapy assessment and management based on human biosciences.
2. Identify anatomical landmarks from surface anatomy.
3. Demonstrate subjective and objective evaluation of musculoskeletal, rheumatology and cardiorespiratory conditions; develop skills for safe physiotherapy techniques including therapeutic exercises and electrophysical agents with appropriate manual handling.
4. Demonstrate respiratory and cardiac management techniques relevant to the cardiorespiratory patient across the lifespan; and prescribe appropriate exercises and exercise progression for the acute and chronic cardiorespiratory patient;
5. Demonstrate subjective and objective evaluation of musculoskeletal, rheumatology, and cardiorespiratory conditions.

Course Outline

Week No.	Topic/Content	Teaching Method
1	Unit 1: Ergonomics	
	1.1 – Practical session on Thoracic walls 1.2 – Ergonomic Analysis/Additional evaluation instruments 1.3 – Risk assessment tools (Rula, Niosh, Moore & Garg, Suzane Rodgers, Check lists of Couto, Push and Pull) 1.4 Performing an ergonomic analysis of the work	Practical demonstration
2	Unit 2: Ergonomics	
	2.1 – Practical session on thoracic cavity and the heart 2.2 – ECG – Learning Laboratory 2.3 – Preventive Programs/ Ergonomics Indicators 2.4 – Physiotherapy in the workplace and the value of the scientific evidence	Practical demonstration and tutorial
3	Unit 3: Orthopedic surgical conditions	
	3.1 – Practical session on the supply systems of the heart 3.2 – THR – Assessment and Physiotherapy interventions 3.3 – TKR – Assessment and Physiotherapy Interventions 3.4 – ACL – Assessment and Physiotherapy Interventions	Practical demonstration
4	Unit 4: Chronic Pain	
	4.1 – Practical session on the superior and posterior mediastina 4.2 – Evaluation of pain/Hypermobility and pain 4.3 – Testing sensory disturbances - Quantitative Sensory Pain Testing (QPST)/Target exercise therapy in cognition 4.4 – Physiotherapy in Chronic Pain and the value of the scientific evidence	Practical demonstration
5	Unit 5: Rheumatology	
	5.1 – Practical session on the lungs and the pleura 5.2 – Assessment and PT Interventions in Rheumatology 5.3 - Identification of Trigger points/Physical and differential tests for the diagnosis of Trigger Point 5.4 – Myofascial Therapy	Practical demonstration
6	Unit 6: Trigger points	
	6.1 – PhysioEx Activity 5 6.2 - PhysioEx Activity 5 6.3 – Dry-needling treatment of the upper limb and trunk 6.4 – Dry-needling treatment of the lower limb	Practical demonstration and Tutorial
7	Mid-semester revision week	
8	Mid-Term Exams	
9	Unit 8:	
	8.1 – Practical session on the upper airways 8.2 – Introduction to cardiorespiratory Physiotherapy Assessment (Interview/Physical Examination) 8.3 – Thoracic Imaging 8.4 – Auscultation (Respiratory and Cardiac auscultation)	Practical demonstration and skills mastery
	Unit 9:	

10	10.1 – PhysioEx 7 (Activity 1 and 2) 10.2 – Mobilizing the unwell patient 10.3 - Oxygen therapy/Non-Invasive Ventilation 10.4 –GAPD/Vibration/Percussion	Practical demonstration and skills mastery
11	Unit 10: 10.1 – PhysioEx 7 (Activity 3 and 4) 10.2 – Incentive Spirometry 10.2 – Respiratory Muscle Training 10.3 – Skills Mastery	Practical demonstration and skills mastery
12	Unit 11: 11.1 – PhysioEx 7 (Activity 5 and 6) 11.2 – Airway clearance technique (PEP therapy/ACBT/ Inhalation therapy) 11.3 – Designing Cardiac and Pulmonary rehab programs 11.4 – Clinical scenarios	Practical demonstration and skills mastery
13	Unit 12: 12.1 – PhysioEx 7 (Activity 7, 8 and 9) 12.2 – Artificial airways and suctioning 12.2 – Group exercise project (student assessment) 12.3 – Skills Mastery	Practical demonstration and skills mastery
14	Final Revision week	
15	Final Exams	

Course Assessment:

Assessment Method	Weightage	Week Due
Midterm VIVA	20%	Week 7
Midterm OSCE	30%	Week 10
Final VIVA	20%	Week 15
Final OSCE	30%	Week 15
Total	100%	

Recommended Textbooks and Readings:

1. Neumann, D. A. (2016). Kinesiology of the Musculoskeletal System: Foundations for Rehabilitation (3rd ed.). Mosby.
2. Dziedzic, K., Hammond, A. (2010). Rheumatology: Evidence-Based Practice for Physiotherapist and Occupational Therapists (1st ed.). Churchill Livingstone
3. Hakim, A., Clunie, G., Haq, I. (2012). Oxford Handbook of Rheumatology (Oxford Medical Handbooks) (2012) (3rd ed.). Oxford University Press
4. Porter, S. B. (2013). Tidy's physiotherapy (15th ed.). Edinburgh: Saunders Elsevier.
5. Donnelly, J. M., Fernandez-da-Las-Penas, C., Finnegan, M., Freeman, J. L. (2018). Myofascial Pain and Dysfunction. The trigger point manual (3rd ed.). Wolters Kluwer
6. Lesondak, D., Thomas, W., (2017) Fascia, what it is and why it matters (1st ed.) Handspring Pub Ltd.
7. Dommerholt, J., Fernandez-de-Las-Penas, C. (2018). Trigger point. Dry needling. An evidence approach and clinical-based approach (2nd ed.). Elsevier
8. Pryor, J. A. & Prasad, S. A. (Eds.). (2014). Physiotherapy for respiratory and cardiac problems (4th ed.). Edinburgh: Churchill Livingstone/Elsevier.

9. O'Young, B. J., Young, M. A., & Stiens, S. A. (2008). *Physical medicine and rehabilitation secrets* (3rd ed.). Philadelphia, PA: Mosby Elsevier.
10. Rothrock, J. C., & McEwen, D. R. (Eds.). (2007). *Alexander's care of the patient in surgery* (13th ed.). St. Louis, MO: Mosby/Elsevier.
11. Wyka, K. A., Mathews, P. J., & Rutkowski, J. A. (2012). *Foundations of respiratory care* (2nd ed.). Australia: Delmar Cengage Learning.
12. Main, E., Denehy, L. (2016). *Cardiorespiratory Physiotherapy: Adults and Paediatrics*. Elsevier
13. Solomen, S., Aaron, P. (2017) *Techniques in cardiopulmonary Physiotherapy*. Peepee publishers

GRD361 – Research Methodology

Course Pre-Requisite: GRD261	Course Co-Requisite: None
Credit Hours: 3	Semester/AY: 1/Year 3
Contact Hours: 3	Course Coordinator: Dr Michelle Van Heerden
Course Instructors: Abu Dhabi: Dr Michelle Van Heerden (michelle.vanheerden@fchs.ac.ae) Al Ain: Dr Michelle Van Heerden (michelle.vanheerden@fchs.ac.ae)	

Course Description

This course will provide an opportunity for health sciences students to establish or advance their understanding of research terminology in the health sciences. The course adopts an inquiry-based approach to make explicit the language conventions and ethics related to the health sciences field. Therefore, the course introduces the language of research, ethical principles and challenges within quantitative, qualitative, and mixed methods approaches. Students will use these theoretical terminologies to critically review health science related literature and will determine how research findings are useful in forming their understanding of the global, local, social and work contexts.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Understand research terminology
2. Be aware of the ethical principles of research, ethical challenges and approval processes
3. Describe quantitative, qualitative and mixed methods approaches to research
4. Identify the components of a literature review process
5. Critically analyse published research.

Course Outline

Week No.	Topic/Content	Teaching Method
1	Module 1: Foundations of Research Unit 1: Introduction to Research and the Research Process	Knowledge-based pedagogies
2	Module 1: Foundations of Research Unit 2: Research Ethics and Integrity	Inquiry-based pedagogies
3	Module 2: Quantitative Research Unit 1: Introduction to Quantitative Research, Study Designs & Methods	Knowledge-based pedagogies
4	Module 2: Quantitative Research Unit 2: Analysis & Interpretation of Quantitative Data	Inquiry-based pedagogies

5	Module 3: Qualitative Research Unit 1: Introduction to Qualitative Research, Study Designs & Methods	Knowledge-based pedagogies
6	Module 3: Qualitative Research Unit 2: Analysis & Interpretation of Qualitative Data	Inquiry-based pedagogies
7	Module 4: Mixed Methods Research Unit 1: Introduction to Mixed Methods Research, Study Designs & Methods	Knowledge-based pedagogies
8	Module 4: Mixed Methods Research Unit 2: Analysis & Interpretation of Mixed Methods	Inquiry/collaborative-based pedagogies
9	Module 5: Designing a discipline-based* research proposal Unit 1: What is a research proposal?	Collaborative-based pedagogies
10	Module 5: Designing a discipline-based* research proposal Unit 2: The importance of reviewing the literature	Collaborative-based pedagogies
11	Module 5: Designing a discipline-based* research proposal Unit 3: Choosing your research method/s and proposal write up	Inquiry-based pedagogies
12	Final Write up and Peer evaluations	
13	Submission of Proposal and preparation for Oral presentation	
14	Wrap up & Student presentations	

* In Module 5, Students will be divided by discipline and led by faculty from their respective department in order to make the research proposal focused on the discipline of choice (Physiotherapy).

Course Assessment

Assessment Method	Weightage	Week Due
Quiz 1: Qualitative and Quantitative Research case studies	10%	Week 5
Midterm	20%	Week 7
Critique of Quantitative, Qualitative or Mixed Method Research Paper	10%	Week 10
Group Project: Research Proposal (conducted by all faculty involved)	20%	Week 13
Paper Presentation (conducted by all faculty involved)	10%	Week 14
Final	30%	Week 16
Total	100%	

Recommended Readings

1. Creswell, J. W. (2018). *Research design: Qualitative, quantitative and mixed methods approaches*. Thousand Oaks, CA: Sage.
2. Pole, K. (2007). *Mixed method designs: A review of strategies for blending quantitative and qualitative methodologies*. Mid-Western Educational Researcher, 20(4), 1-4.
3. Spencer, L., Ritchie, J., Lewis J., & Dillon, L. (2003). Quality in qualitative evaluation: A framework for assessing research evidence. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/49832/2/a_quality_framework_tcm6-38740.pdf

4. Siewierski, C. (2015). *An introduction to scholarship, building academic skills for tertiary study*. South Africa: Oxford University Press.
5. Tryka, L. Q. & Hess, D. (2009). *Simon & Schuster Handbook for Writers*. New Jersey: Pearson Education.

CER – College Elective Courses

PTY500 – Personal and Professional Development

Course Pre-Requisite: N/A	Course Co-Requisite: N/A
Credit Hours: 3	Semester/AY: 1 or 2/Year 3
Contact Hours: 3	Course Coordinator: Dr. Balkhis Banu
Course Instructors: Abu Dhabi: Dr. Balkhis Banu (balhis.banu@fchs.ac.ae) Al Ain: Dr. Balkhis Banu (balhis.banu@fchs.ac.ae)	

Course Description

In this course, students will develop personal attributes and related skills to foster transition from student to practice. Students will be introduced to the concept of self-care, personal ethics, healthy lifestyle, communication skills and skills in teamwork. The development of clinical effectiveness and inter-professional functioning is supported through reflective practice, stress management, relaxation training and coping skills.

In addition, students will explore broad society and population issues that affect health care and the practice of health care professions. This includes developing an understanding of the legal, ethical and regulatory framework in which health professionals work and the concepts of professional self-regulation. Students will also be introduced to and have direct experience (through the clinical placement) of the role of each of the various health professionals within the UAE Healthcare System.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Develop strategies for maintaining the mental and physical health status.
2. List the attributes that define a profession and societies' expectations of a professional
3. Identify the professionals who make up the health care team and describe their roles and responsibilities.
4. Work collaboratively in interdisciplinary learning groups and recognize the factors which determine effective teamwork.
5. Examine the similarities/differences between ethical issues in personal and professional life.
6. Identify the key ethical and legal principles and theories that underpin health care policy and practice.
7. Discuss the legal framework within which health professionals operate and the legal basis of the practitioner-patient relationship.
8. Describe concepts of professional responsibility and public accountability with reference to the role of the courts, common law, statutes and professional self-regulation.
9. Develop basic skills of professional communication including report and record writing.

Course Outline

Week No.	Topic/Content	Teaching Method
1	Unit 1: ORIENTATION & INTRODUCTION 1.1 General Introduction Explanation of structure of lectures, assessment requirements, staff and student expectations 1.2 Personal health and wellbeing Critical reflection 1.3 Professional attributes and expectations Professional associations Professional standards	Lecture
2	Unit 2: HEALTH ENHANCEMENT PROGRAM 2.1 Introduction to the ESSENCE program 2.2 SMART goals 2.3 Motivational interviewing	Lecture
3	Unit 3: HEALTH ENHANCEMENT PROGRAM 3.1 Stress management 3.2 Stress and performance 3.3 Mindfulness	Lecture <ul style="list-style-type: none"> ▪ Assignment plan
4	Unit 4: PERSONAL HEALTH & WELLBEING 4.1 Practicing mindfulness 4.2 Exercise 4.3 Perceptions of exercise	Lecture <ul style="list-style-type: none"> ▪ Reflective Portfolio
5	Unit 5: PERSONAL HEALTH & WELLBEING 5.1 Nutrition 5.2 Perceptions of nutrition 5.3 Team Development	Lecture
6	Unit 6: WORKING IN PROFESSIONAL TEAMS 6.1 Inter Professional Teams 6.2 Effective teamwork 6.3 Scenarios of health care teams	Lecture
7	Unit 7: PROFESSIONAL COMMUNICATION 7.1 Effective communication in health 7.2 Professional communication 7.3 Therapeutic communication	Lecture
8	Midterm	
9	Unit 8: ADULT LEARNING AND CRITICAL REFLECTION 8.1 Adult learning: Exploring individual differences 8.2 Learning styles/preferences 8.3 Reflective practice	Lecture

10	Unit 9: UNDERSTANDING HEALTH CARE LAW 9.1 Critical reflection 9.2 UAE legal system 9.3 Health care policies	Lecture ▪ Reflective Portfolio
11	Unit 10: ETHICS IN HEALTH CARE 10.1 Documentation, confidentiality and informed consent 10.2 Informed consent 10.3 Ethics and morals	Lecture
	Unit 11: ETHICS IN HEALTH CARE II 11.1 Ethical decision-making 11.2 Health care ethics 11.3 Making ethical decisions	Lecture
12	Unit 12: OCCUPATIONAL HEALTH & SAFETY 12.1 Cross infection & standard precautions 12.2 Standard precautions 12.3 Cross-cultural communication	Lecture ▪ Oral presentations
13	Unit 13: UNDERSTANDING HEALTH CARE SYSTEM 13.1 Patient centred care 13.2 Becoming healthcare professional 13.3 Occupational health and safety	Lecture
14	Unit 14: OCCUPATIONAL HEALTH 14.1 Occupational injuries 14.2 Manual handling 14.3 Ergonomics	Lecture Written assignment
15	Revision	Revision
16	Final Written Exam	

Course Assessment

Assessment Method	Weightage	Week Due
'Improving my own health' Assignment plan	Hurdle	Week 3
Reflective portfolio	20%	Weeks 4 and 8
Oral presentation	20%	Week 10
Written assignment (Improving my own health)	30%	Week 14
Final Written Exam	30%	Week 16
Total	100%	

Recommended Textbooks and Readings

Useful textbooks for this course are:

1. L Michele Issel (2018) *Healthcare management review*, Lippincott, Wolters Kluwer.
2. David J Tipton (2017) *Personal and professional growth for healthcare professionals*, Jones and Bartlett learning.

3. William Rayburn (2017) *Continuing professional development in medicine and healthcare, better education better patient outcomes*, Wolters Kluwer.
4. Roxann Delaet (2012) *Dynamics of healthcare in society*, Lippincott Williams and Wilkins, Wolters Kluwer.
5. Hassed C. (2008). *The Essence of Health: The Seven Pillars of Wellbeing*. Random House, Sydney.
6. Rose, M. & Best, D. (Eds). (2005). *Transforming practice through clinical education, professional supervision and mentoring*. Edinburg: Elsevier.

Recommended readings:

1. Health Authority Abu Dhabi (HAAD) Annual Report 2009, pp9-11.
2. Hassed, C. (2008). *The Essence of Health: The Seven Pillars of Wellbeing*. Random House, Sydney. p172-4 (SMART goals), p169 (Prochaska-DiClemente).
3. Britt, E., Hudson, S. and Blampied, M. (2004). Motivational interviewing in health settings: a review. *Patient Education and Counseling* 53: 147-155.
4. Ludwig, D. & Kabat Zinn, J. (2008). *Mindfulness in medicine*. JAMA 300(11): 1350-1352.
5. Hassed, C., de Lisle, S., Sullivan, G. & Pier, C. (2009). Enhancing the health of medical students: outcomes of an integrated mindfulness and lifestyle program. *Advances in Health Sciences Education* 14(3): 387-398.
6. Epstein, R. (1999). *Mindful Practice*. JAMA 282(9): 833-839.
7. Kausman, R. & Bruere, T. (2006). *If not dieting, now what?* Aust Fam Physician 35(8): 572-5.
8. Hassed, C. (2008). *The Essence of Health: The Seven Pillars of Wellbeing*. Random House, Sydney. P127-128 (for further information on exercise please refer to chapter 4 and nutrition please refer to chapter 5)
9. Australian Guide to Healthy Eating NHMRC 2003 retrieved from: <http://www.nhmrc.gov.au/files/nhmrc/publications/attachments/n29.pdf>
10. Reynolds, F. (2005). Teamwork in the Rehabilitation Setting. In *Communication and Clinical Effectiveness in Rehabilitation*. Edinburgh: Elsevier Butterworth-Heinemann, pp205-226.
11. Mikan, S. & Rodger, S. (2000). *Characteristics of effective teams: a literature review*. Australian Health Review 23(3): 201-208.
12. Higgs, J., Sefton, A., Street, A., McAllister, L., & Hay, I. (2005). *Communicating in the Health and Social Sciences*. Oxford: Oxford University Press.

13. Silverman, J., Kurtz, S. & Draper, J. (2005). *Skills for communicating with patients* (2nd ed). New York: Radcliffe Medical Press, pp22-26.
14. The Calgary-Cambridge guide to communication process skills retrieved from: http://medcomm.medicine.dal.ca/strategies/CCG_Comm.pdf
15. Davis, C. (1998). *The Helping Interview: Patient Practitioner Interaction*. (3rd Ed.) New Jersey: Slack, pp179-190.
16. Baird, M. & Winter, J. (2005). Reflection, practice and clinical education. *Transforming practice through clinical education, professional supervision and mentoring*. (p. 156). Edinburgh Elsevier.
17. Higgs, J. & Titchen, A. (2000). Knowledge & reasoning. *Clinical reasoning in the health professions*, pp23-32.
18. Delany, C. (1996). *Should I warn the patient first?* Australian Journal of Physiotherapy 42(3): 249-255.
19. HAAD: Policies of Confidentiality and of Informed Consent
20. Gammon, J., Morgan-Samuel, H., & Gould, D. (2008). A review of the evidence for suboptimal compliance of healthcare practitioners to standard/universal infection control precautions. *Journal of Clinical Nursing* 17(2): 157-167.
21. Sreedharan, J., Muttappillymyalil, J., & Venkatramana, M. (2001). Knowledge about standard precautions among university hospital nurses in the United Arab Emirates. *EMHJ* 17(4): 331-334.
22. Mann, K., Gordon, J., & MacLeod, A. (2009). *Reflection and reflective practice in health professions education: a systematic review* *Adv in Health Scie Educ* 14: 595-621

Web resources:

1. World Health Organization (WHO) <http://www.who.int/en/>
2. Health Authority Abu Dhabi (HAAD) <http://www.haae.ae/Haad/>
3. Australian Health Practitioner Agency (AHPRA) <http://www.ahpra.gov.au> (international perspective)
4. National Health Service (NHS) <http://www.nhs.uk/Pages/HomePage.aspx>
5. World Confederation of Physical Therapy (WCPT) <http://www.wcpt.org/>

RMI510 – Principles of Clinical Imaging

Course Pre-Requisite: NA	Course Co-Requisite: NA
Credit Hours: 3	Semester/AY: 1 or 2/Year 3
Contact Hours: 3	Course Coordinator: Mustafa Alhasan
Course Instructors: Abu Dhabi: Mustafa Alhasan (mustafa.alhasan@fchs.ac.ae) Al Ain: Qays Alhourani (Qays.AlHorani@fchs.ac.ae)	

Course Description

This is an elective course for health science disciplines to introduce them to medical radiation sciences. This course will cover topics related to the types of radiations used in hospitals to diagnose different types of diseases. Basic mechanism of radiation production, imaging procedures and image visualization will be covered. At the end of this course, student is expected to have a general and basic knowledge of imaging science.

Course Learning Outcomes

Upon completion of this course, students will be able to:

1. Define basic medical imaging terminology
2. Identify different types of radiation
3. Demonstrate an understanding of radiation safety
4. Describe the role of imaging department

Course Outline

Week No.	Topic/Content	Teaching Method
1	Development of radiography	Lecture
2	Principles of medical radiation	Lecture
3	Radiographic terminology	Lecture
4	Quiz	Exam of mixed questions
5	Radiologic technologist profession	Lecture
6	Imaging department in clinical settings	Lecture
7	Introduction to radiation biological effects	Lecture

9	Midterm Exam	Exam of mixed questions
10	Principles of general radiography	Lecture
11-12	Principles of CT scan Assignment	Lecture+ writing assignment
13	Principles of US Presentation	Lecture+ student group presentations
14	Principles of NM	Lecture
15	Imaging services in UAE	Lecture
16	Final Exam	Written exam

Course Assessment

Assessment Method	Weightage	Week Due
Quiz (mixed exam of MCQ and essay questions about covered topics, 20-30 min)	10%	Week 4
Midterm Exam (mixed exam of MCQ and essay questions about covered topics, 60 min)	20%	Week 8
Assignment (written assignment of 1000 words)	10%	Week 10
Presentation (oral power point presentation of 15 min)	20%	Week 13
Final Exam (Comprehensive mixed exam of MCQ and essay questions about covered topics, 120 min)	40%	Week 16
Total	100%	

Required Textbooks and Recommended Readings

Arlene Adler, Richard Carlton, Introduction to Radiologic Sciences and Patient Care, 7th edition, 2018

NUR520 – First Aid and Safety

Course Pre-Requisite: Nil	Course Co-Requisite: Nil
Credit Hours: 3	Semester/AY: 2019 - 2020
Contact Hours: 3	Course Coordinator: Dr. Omar Melham
Course Instructors: Abu Dhabi: Omar Melham (omar.melham@fchs.ac.ae) Al Ain: Omar Melham (omar.melham@fchs.ac.ae)	

Course Description

The importance of this course lies in preparation and supplying the students with the information required to start doing the first aid procedures to maintain human life in proper ways. This course deals with the theoretical study of basic principles and concepts of first aid with some practical applications of certain paramedical procedures for critical situations. The course also includes other important subjects, such as, the first aider's features and duties, the materials, equipment and medicines of the first aid; the causes and types of injuries, and how to deal with them until the completion of the advanced measures according to medical principles and principles and foundations of first aid to achieve the desired goals.

Course Learning Outcomes

Upon completion of this course, students will be able to:

1. Demonstrate basic first aid skills needed to control bleeding and immobilize injuries.
2. Demonstrate the skill needed to assess the ill or injured person.
3. Demonstrate skills to assess and manage foreign body airway obstruction in infants, children and adults.
4. Demonstrate skills to provide one- and two- person cardiopulmonary resuscitation to infants, children and adults.
5. Recall rationale and technique for automated external defibrillation.
6. Demonstrate proper use of pocket mask during resuscitation attempts.

Course Outline

Week No.	Topic/Content	Teaching Method
1	Introduction	
2	Part 1: First Aid Basics 1. Rescuer Duties 2. Victim and Rescuer Safety 3. Phoning for Help 4. Finding the Problem	Interactive Lectures Audiovisual presentations

	5. After the emergency	
3	Part 2: First Aid Basics 1. Rescuer Duties 2. Victim and Rescuer Safety 3. Phoning for Help 4. Finding the Problem 5. After the emergency	Interactive Lectures Audiovisual presentations Labs training
4	Medical Emergencies 1. Breathing Problems 2. Choking in an Adult 3. Allergic Reactions 4. Heart Attack 5. Fainting 6. Diabetes and Low Blood Sugar 7. Stroke 8. Shock	Interactive Lectures Audiovisual presentations Labs training
5	Medical Emergencies - Breathing Problems - Choking in an Adult	Interactive Lectures Audiovisual presentations
6	Medical Emergencies - Allergic Reactions - Heart Attack - Fainting	Interactive Lectures Audiovisual presentations
7	Medical Emergencies - Diabetes and Low Blood Sugar - Stroke - Shock	Interactive Lectures Audiovisual presentations
8	Midterm Exam	Interactive Lectures
9	Injury Emergencies - Bleeding You Can See - Wounds	Interactive Lectures Use of electronic resources Labs training
10	Injury Emergencies - Bleeding You Can't See - Head, Neck, and Spine Injuries	Interactive Lectures Use of electronic resources
11	Injury Emergencies - Broken Bones and Sprains - Burns and Electrical Injuries	Interactive Lectures Use of electronic resources

12	Environmental Emergencies - Bites and Stings - Heat-Related Emergencies - Cold-Related Emergencies - Poison Emergencies	Interactive Lectures
13	CPR and AED - CPR and AED for Adults - CPR and AED for Children	Interactive Lectures Labs training
14	CPR and AED - CPR and AED for Adults - CPR and AED for Children	Interactive Lectures Labs training
15	Comprehensive Exam	

Course Assessment

Assessment Method	Weightage	Week Due
Homework/ Assignments	20%	All Weeks
Quizzes	20%	Week 4&11
Midterm Exam	20%	Week 8
Final Exam	40%	Week 15
Total	100%	

Required Textbooks and Recommended Readings

1. Furst J. (2018). The Complete First Aid Pocket Guide: Step-by-Step Treatment for All of Your Medical Emergencies, Simon and Schuster.
2. Hubbard J. (2013). Living Ready Pocket Manual - First Aid: Fundamentals for Survival, Living Ready

EHP530 – Communication Skills for Healthcare Professionals

Course Pre-Requisite: None	Course Co-Requisite: None
Credit Hours: 3	Semester/AY: 2019 - 2020
Contact Hours: 3	Course Coordinator: David Keith David.keith@fchs.ac.ae
Course Instructors: Abu Dhabi: David Keith (David.keith@fchs.ac.ae) Al Ain: Dr. Tanveer Yadgir (Tanveer.yadgir@fchs.ac.ae)	

Course Description

This course will provide the foundation of knowledge specific to communication techniques relevant to the allied health profession. In this course you will learn about the communication principles and practices that healthcare providers need to effectively communicate with patients, family members, health care providers and other professions. The major themes of study are the basic principles of communication, therapeutic communications, communication patterns, ethics and healthcare communications and advanced issues in communication. Topics include health communications; therapeutic communications; cultural considerations; principles of human connection; reflections and interpretations; patient-centered communications; family dynamics; systems of care; and ethics.

Course Learning Outcomes

Upon completion of this course, students will be able to:

1. Explain the purposes of communication between healthcare providers, patients and family members.
2. Discuss factors that influence potential health professional relationships with a communication partner.
3. Gather appropriate information during a health care interaction from all relevant sources.
4. Demonstrate appropriate presentation and public speaking techniques, relevant to the target audience.
5. Demonstrate a flexible approach by adapting communication according to unanticipated situations.
6. Demonstrate strategies for dealing with conflict in health care.
7. Demonstrate knowledge of technologies relevant to health care communication.
8. Discuss continued development of communication skills throughout health professional career.
9. Reflect on previous communication interactions to inform subsequent communication interactions.

Course Outline:

Week No.	Topic/Content	Teaching Method
1	<ul style="list-style-type: none"> Basics of Public Speaking Audience analysis and listening Ethics in public speaking 	Lecture
2	Presentation techniques and Public Speaking <ul style="list-style-type: none"> Presentation aids Selecting approach and main points 	Lecture and workshop
3	<ul style="list-style-type: none"> Topic Selection Supporting your ideas 	Lecture and workshop
4	<ul style="list-style-type: none"> Introductions and conclusions Language 	Lecture and workshop
5	Persuasive Speaking	Lecture and workshop
6	Examination Period Presentation 1	
7	Healthcare communications: Foundations <ul style="list-style-type: none"> Health communications and quality care Principles of communication Nature of therapeutic communications Cultural similarities and differences 	Lecture and workshop
8	Examination Period Mid-Semester Exam	
9	Competencies in Therapeutic communications <ul style="list-style-type: none"> Confirmation and empathy Trust and mistrust of providers Questioning techniques Use of silence and pauses Impact and limitations of self-disclosure Proper placement of advisement Reflections and interpretations Use of confrontations and directives 	Lecture and workshop
10	Patient-centred Communication <ul style="list-style-type: none"> Communicating with patients with chronic and life-threatening illness Communicating during crisis Communicating with difficult patients 	Lecture and workshop
11	Communication with other members of the health system and Structured Debriefing <ul style="list-style-type: none"> Communication across healthcare provider groups 	Lecture and workshop

	<ul style="list-style-type: none"> • Conflict in healthcare system communications • Debriefing Techniques 	
12	Examination Period Presentation 2	
13	Communication with other members of the health system Ethics and communications <ul style="list-style-type: none"> • Family dynamics • Privileged communications • Confidentiality, anonymity, and privacy 	Lecture and workshop
14	Transforming role of communications <ul style="list-style-type: none"> • Communications to enhance behavioural change • Internet use and communications • Altering systems of care to enhance communication 	Lecture and workshop
15	Communicating within the health care system	Lecture and workshop
16	Examination Period End-of-Semester Exam	

Course Assessment:

Assessment Method	Weightage	Week Due
Presentation 1	20%	6
Midterm exam	20%	8
Presentation 2	20 %	12
Final Exam	40 %	16
Total	100%	

Required Textbooks and Recommended Readings:

1. Tucker B & Barton K (2016). *Exploring Public Speaking, Second Edition. Communication. Open Textbooks.*
2. Van Servellen G (2020). *Communication skills for the health care professional: context, concepts, practice, and evidence, Third Edition.* Jones & Bartlett Learning.

GRD540 – Health Informatics

Course Pre-Requisite: None	Course Co-Requisite: None
Credit Hours: 3	Semester/AY: 2019/2020
Contact Hours: 3	Course Coordinator:
Course Instructors: Abu Dhabi: TBA (name.surname@fchs.ac.ae) Al Ain: TBA	

Course Description

This course aims to introduce common first year students to basic information in health informatics concepts: the study of how health data are collected, stored, processed, and used to support the process of health care delivery. It prepares students to The course offers an overview of the field of health informatics by providing students with the fundamental knowledge of the concepts of health informatics and how technology is used in the delivery of effective health care. Student will also gain an understanding of the challenges encountered in Healthcare Informatics.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Gain the knowledge of the foundations of Health information technology.
2. Have an Understanding of the databases used in health care.
3. Explore how technology is used to improve health care delivery.
4. Acquire breadth of knowledge of the principles of health informatics.
5. Understand future directions in Health Care informatics.

Course Outline:

Week No.	Topic/Content	Teaching Method
1	Introduction to the course General introduction to the course Distribution of Course Outline and study chart Explanation of assessment criteria, student's responsibilities, and attendance	
2	Foundations of Health Care Informatics Major Theories supporting Healthcare informatics	Lecture
3	Computer, information and Health care informatics Literacy	Lecture, Invite IT technology support to speak

4	Data Bases Introduction to the parts of data bases and the anatomy of Databases, Data base models, and identification of situations in which a relational database is needed.	Lecture Group activity to plan a small relational database
5	Decision Making in Clinical Care Discussion about the utilization of integrated computerized systems to support the decision-making system healthcare.	Lecture Discussions
6	Health Information System: Purpose, structure and functions of healthcare information department. Applications for Health care information system	Lecture Discussions
7	Health Information System: Electronic Health Records	Lecture Discussions
8	MIDTERM EXAM	
9	Using Technology to Deliver Healthcare and Education Technological approaches to communication	Lecture Discussions
10	Using Technology to Deliver Healthcare and Education Technology and Education	Lecture Discussions.
12	Using Technology to Deliver Healthcare and Education eHealth trends and Technologies	Lecture Discussions Web Connection Activities
13	Infrastructures to support Healthcare Informatics Technical Standards Professional Standards Protection of Health care Information	Lecture Discussions
14	The history and Future of Health Care Information Historical Developments, Future Educational Programs, Future Research...	Lecture Discussions Web Connection Activities
15	Case Discussions and Presentations	
16	Final Exam	

Course Assessment:

Assessment Method	Weightage	Week Due
Quiz 1	10%	Week 4
Midterm	20%	Week 7
Quiz 2	10%	Week 10
Group Project	20%	Week 14
Final	40%	Week 15
Total	100%	

Required Textbooks and Recommended Readings:

Nelson, R. & Staggers, N. (2018). Second edition. Health Informatics, An Interprofessional Approach. Mosby, St. Louis, Missouri.

GRD550 – Health and Nutrition

Course Pre-Requisite: None	Course Co-Requisite: None
Credit Hours: 3	Semester/AY: 2019 - 2020
Contact Hours: 3	Course Coordinator: TBD
Course Instructors: Abu Dhabi: Al Ain:	

Course Description

This course will introduce students to essentials of human nutrition and its relationship with health. Students will learn in this course about the different nutrients important for health, and dietary guidelines towards good health. Finally, the course draws on global health promotion that will enable students to apply the underpinning of a healthy and active lifestyle within a middle east context.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. To provide an overview of the role of micronutrients and macronutrients in maintaining health
2. Identify the structures and functions of the digestive system and its role in human nutrition and health.
3. Define nutritional requirements in healthy individuals and populations, with reference to specific conditions such as pregnancy, lactation, and older age.
4. Explain how nutrition contributes to common disease processes.

Course Outline:

Week No.	Topic/Content	Teaching Method
1	An Introduction to Food, Nutrients, and Human Health	Lecture
2	Food Labels, Groups, and Phytochemicals	Lecture
3	Digestion and Absorption	Lecture
4	Energy and Metabolism	Lecture
5	The Macronutrients: a. Carbohydrates	Lecture

6	b. Fats and Lipids, c. Protein	Lecture
7	The Micronutrients: a. Vitamins, b. Water and Mineral	Lecture
8	Special Topics in Nutrition: Nutrition during Pregnancy, Lactation, and Infancy	Lecture
9	Nutrition across the Lifecycle Nutrition for Physically Active Adults and Athletes	Lecture
10	Nutrition related disorders: Overweight and obesity Protein-energy malnutrition	Lecture
11	Diabetes mellitus and the metabolic syndrome	Lecture
12	Nutritional crises Cardiovascular diseases Nutrition and cancer	Lecture
13	Eating disorders	Lecture
14	Healthy lifestyle promotion	Lecture
15	Revision	
16	Final Exam	

Course Assessment:

Assessment Method	Weightage	Week Due
Homework/Assignment	10%	3
Case study/ project	10%	7
Quiz 1	10%	5
Quiz 2	10%	9
Midterm	20%	8
Final	40%	16
Total	100%	

Required Textbook:

J. Mann and S. Truswell (5th edition, 2017). *Essentials of Human Nutrition*. Oxford University Press.

GRD560 – Astronomy

Course Pre-Requisite: None	Course Co-Requisite: None
Credit Hours: 3	Semester/AY: 2019/2020
Contact Hours: 3	Course Coordinator: Dr. Nadia Boutabba
Course Instructors: Abu Dhabi: Nadia Boutabba (Nadia.Boutabba@fchs.ac.ae) Al Ain: TBA	

Course Description

This course is designed to emphasize the important fundamental concepts in astronomy. It offers mainly an *overview of the structure, formation, and evolution of planets, stars, galaxies, and the Universe*. The students will learn about the Solar System which contains the Sun, the planets Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune, and Pluto. With over 400 billion stars burning steadily, students will get to know that we are in the Milky Way which is just a typical Galaxy in one of the universes in the space. Moreover, they will be updated on the dark matter mainly composed of dark energy that is causing the universe to expand and to accelerate.

In this elective course, students will have hands on large-scale systems from the astrophysics field. For example, they will be able to work with big standard scientific notations and estimate relative scales. This would have a great impact on their carrier and would give them the chance to discover other healthcare professional profiles.

Course Learning Outcomes

Upon completion of this course, students will be able to:

1. Develop critical thinking about principles of astronomy and astrophysics.
2. Describe the Earth's place in the Solar System and relate it to the Galaxy and the whole universe.
3. Understand the scale of the Universe and the planets relative.
4. Build knowledge about other universes, Galaxies and look at the open questions in science.

Course Outline:

Week No.	Topic/Content	Teaching Method
1	Orientation	Introduction to Astronomy
2- 3	Motions in the Sky and the 3D Geometry of the Sun, Earth, Moon System, Orbits and the Laws of Kepler and Newton	Power-point Presentation, video lectures, demonstration and simulation

4	Electromagnetic radiation and Astronomical Observations	Power-point Presentation, video lectures, demonstration and simulation
5 – 7	The Properties of Stars and Stellar Classification The Early Stages of Stellar Evolution The Late Stages of Stellar Evolution	Power-point Presentation, video lectures, demonstration and simulation
8-9	Star Clusters The Milky Way Galaxy	Power-point Presentation, video lectures, demonstration and simulation
10	Galaxies in the Universe	Project_visual discussions and presentations
11 & 12	The Solar System	Project_visual discussions and presentations
13	Life in the universe	Group work/exercises
14	Exam	Power-point Presentation, video lectures, demonstration and simulation

Course Assessment:

Assessment Method	Weightage	Week Due
Quiz1	10%	Week 4
Quiz2	10%	Week 8
Mid-term	20%	Week 6
Project	20%	Week 10
Final Exam	40%	Week 14
Total	100%	

Recommended Readings:

Astronomy: A Beginner's Guide to the Universe (7th Edition) by Eric Chaisson and Steve McMillan. Pearson; 7 edition (September 24, 2012), ISBN-10: 0321815351
ISBN-13: 978-0321815354.

References:

From Stars to Patients: Lessons from Space Science and Astrophysics for Health Care Informatics. S. G. Djorgovski, A. A. Mahabal California Institute of Technology Pasadena, CA 91125, USA; D. J. Crichton Jet Propulsion Laboratory Pasadena, CA 91109, USA; B. Chaudhry Tule Health Washington, DC 20008, USA

GRD570 – Science and Technology Evolution

Course Pre-Requisite: None	Course Co-Requisite: GER
Credit Hours: 3	Semester/AY:
Contact Hours: 3	Course Coordinator: TBD
Course Instructors: Abu Dhabi: TBD Al Ain: TBD	

Course Description

This course will be useful for health care students to provide them with basic knowledge about how science and technology have evolved over time. Scientists' accomplishments will be presented to students with a focus on the importance of their discoveries and its impact on civilization especially in the health sector. Additionally, the course will highlight the contribution of Arab and Muslim scientists especially in the health field which provided the foundation for current health knowledge.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Have an understanding in the methods scientist have used in their research and the challenges they faced in seeking knowledge.
2. Identify the basics of research methods to construct a scientific model of the atomic structure.
3. Understand of the basic laws of Nature that lead to discoveries and new technologies and how it is used in modern day.
4. Understand the importance of technology and the steps taken to improve the technology which we use today.
5. State some modern techniques used for drug delivery using Nano- particles and Nanobots and compare it with chemotherapy.
6. State Arab and Muslim scientists' contributions in general sciences and in the health field.

Course Outline:

Week No.	Topic/Content	Teaching Method
1	Lecture 1: <ul style="list-style-type: none">• Course orientation and introduction• Definition of Science and Technology• Technology importance.• The Scientific Method (Pasteur).	Lecture

2	Lecture2: <ul style="list-style-type: none"> • Definition of Science and Technology • Technology importance. • The Scientific Method (Pasteur). 	Lecture
3	Lecture 3: Biology Science development I <ul style="list-style-type: none"> • The Microscope • Anti-Biotics and Vaccination 	Lecture
4	Lecture 4: Biology Science Development II <ul style="list-style-type: none"> ▪ Genetics (Mendel) ▪ The DNA Structure (James Watson And Francis Crick) 	Lecture
5	Lecture 5: Chemistry and Physics Development. <ul style="list-style-type: none"> ▪ The periodic Table And its development. ▪ Electrons (J.J. Thomson) 	Lecture
6	Lecture 6: <ul style="list-style-type: none"> ▪ Atomic Theory (Dalton) ▪ Radio Activity 	Lecture
7	Lecture 7: <ul style="list-style-type: none"> ▪ Archimedes ▪ Galileo 	Lecture
8	Midterm Exam Week	
9	Lecture 8: <ul style="list-style-type: none"> • Classical Physics (Newton) • Modern Physics (Einstein) 	Lecture
10	Lecture 9: <ul style="list-style-type: none"> • Quantum • Astronomy • Nano particles and drug delivery 	Lecture
11	Lecture 10: Arab and Muslims Scientists <ul style="list-style-type: none"> • Al- Farabi 	Lecture
12	Lecture 11: Arab And Muslims contribution in Physics <ul style="list-style-type: none"> • Al-Bironi • Hassan IBN Al Hitham 	Lecture
13	Lecture 12: Arab And Muslims Contribution in Math <ul style="list-style-type: none"> • Al Khawarizmi 	Lecture
14	Lecture 13: Arab and Muslims Contribution in Chemistry <ul style="list-style-type: none"> • Jaber IBN Hayyan 	Lecture
15	Lecture 14: Arab And Muslims Contribution in Health Science. <ul style="list-style-type: none"> • Avincenna • Al-Razi • IBN Al – Nafees 	Lecture
16	Final Exam	

Course Assessment:

Assessment Method	Weightage	Week Due
Research assignment	20%	12
presentation	10%	13
Quiz	20%	6, 10
Midterm	20%	8
Final	30%	16
Total	100%	

Required Textbooks and Recommended Readings:

Bunch B. (1st edition 2004). *The History of Science and Technology: A Browser's Guide to the Great Discoveries, Inventions, and the People Who Made Them from the Dawn of Time to Today*. Houghton Mifflin Harcourt, Boston, US A.

MEC – Major Elective Courses

PTY061 – Manual Therapy

Course Pre-Requisite: PTY242	Course Co-Requisite: N/A
Credit Hours: 2	Semester/AY: 1 or 2/Year 3
Contact Hours: 2	Course Coordinator: Senthilnathan Ramakrishnan
Course Instructors: Abu Dhabi: Dr Unaise Abdulhammed (unaise.abdulhameed@fchs.ac.ae) Al Ain: Senthilnathan Ramakrishnan (senthilnathan.ramakrishnan@fchs.ac.ae)	

Course Description

This course is designed to develop the knowledge and skills that underpin physiotherapy clinical practice concerning manual therapy. The knowledge and skills gained in this course will help the students to choose the evaluation and treatment of musculoskeletal disorders of extremities and spine, within the scope of the specialty area of clinical practice, manual therapy. This course is designed as a theoretical and practical course comprising of lectures, practical demonstrations, and skills mastery sessions. The contents will cover manual therapy of all regions of the body including upper extremity, lower extremity, cervical spine, lumbar spine, and temporomandibular joint. The contents are designed in such a way that the best available research evidence is incorporated. Clinical reasoning skills of assessment, management, and evaluation is emphasized.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Describe the basic principles underlying manual therapy practice including different manual therapy schools of thought, definitions, and types of manual therapy; indications and contraindications; and safety measures.
2. Explain the anatomical and biomechanical foundations applicable to the practice of manual therapy of upper extremity, lower extremity, spine, neural tissue, and temporomandibular joints.
3. Demonstrate skills in the performance of subjective and objective examination and evaluation of findings as applicable to extremities, spine, sacroiliac joints, neural tissue, and temporomandibular joints.
4. Demonstrate knowledge of the accuracy and specificity of clinical tests and their role in collaboratively building a diagnosis
5. Demonstrate manual therapy treatment techniques for dysfunctions specific to upper and lower extremities; cervical and thoracic spine; lumbopelvic complex and sacroiliac joints; neural tissue; and temporomandibular joints.
6. Choose the most appropriate manual therapy examination and treatment techniques based on the clinical reasoning knowledge and skills gained from current and previous knowledge.
7. Critically evaluate and apply the current evidence with reference to manual therapy.

Course Outline

Week No.	Topic/Content	Teaching Method
1	Manual therapy: Introduction and schools of thought	Lecture and tutorial
2	Anatomical and biomechanical foundational concepts for Manual therapy	Lectures, practical demonstration and skills mastery
3	Cervical spine: manual therapy assessment and treatment techniques	Lectures, practical demonstration and skills mastery
4	Thoracic spine: manual therapy assessment and treatment techniques	Lectures, practical demonstration and skills mastery
5	Upper extremity manual therapy: Examination and treatment of shoulder complex	Lectures, practical demonstration and skills mastery
6	Upper extremity manual therapy: Examination and treatment of elbow complex, wrist, and hand	Lectures, practical demonstration and skills mastery
7	Mid-semester revision week	
8	Mid-semester written and OSCE exam week	
9	Lower extremity manual therapy: Examination and treatment of Lumbo-pelvic complex and Sacroiliac joints	Lectures, practical demonstration and skills mastery
10	Lower extremity manual therapy: Examination and treatment of hip and Knee	Lectures, practical demonstration and skills mastery
11	Lower extremity manual therapy: Examination and treatment of ankle and foot complex.	Lectures, practical demonstration and skills mastery
12	Manual therapy assessment and treatment of temporomandibular joint dysfunction	Lectures, practical demonstration and skills mastery
13	Neurodynamic assessment and neural tissue mobilization treatment techniques.	Lectures, practical demonstration and skills mastery
14	Evidence based practice in manual therapy	Lectures and tutorials.
15	End semester revision week	
16	End semester written examination and OSCE	

Course Assessment

Assessment Method	Weightage	Week Due
Skill mastery (Weekly activity log)	10%	Weekly
Mid-semester written examination	15%	Week 8
Midterm Exam (OSCE)	30%	Week 8
End semester written examination	15%	Week 16
Final Exam (OSCE)	30%	Week 16
Total	100%	

Recommended Textbooks and Readings:

1. Lederman E. The Science and Practice of Manual therapy. 2nd ed. Elsevier: London. (2005).
2. Hengeveld, E., & Banks, K. (2005). Maitland's Peripheral Manipulation: Elsevier/Butterworth Heinemann.
3. Hing, W., Hall, T., Rivett, D. A., Vicenzino, B., & Mulligan, B. (2015). The Mulligan Concept of Manual Therapy - eBook: Textbook of Techniques: Elsevier Health Sciences.
4. Kaltenborn, F. M., & Evjenth, O. (2007). Manual Mobilization of the Joints: The extremities: Norli.
5. Maitland, G. D., Hengeveld, E., Banks, K., & English, K. (2005). Maitland's Vertebral Manipulation: Elsevier Butterworth-Heinemann.
6. Van Duijn, A. J. (2016). Manual Therapy of the Extremities: Jones & Bartlett Learning.

PTY062 – Massage Therapy

Course Pre-Requisite: PTY242	Course Co-Requisite: N/A
Credit Hours: 2	Semester/AY: 1 or 2/Year 3
Contact Hours: 3	Course Coordinator: Chithira Nair
Course Instructors: Abu Dhabi: Chithira Nair (chithira.nair@fchs.ac.ae) Al Ain: Chithira Nair (chithira.nair@fchs.ac.ae)	

Course Description

This elective course in massage therapy will provide the students with information about the basic concepts of massage therapy. This 2 CH course is composed of theoretical lectures within the classroom and practical demonstration, and hands-on practice in the physiotherapy laboratory. Topics that will be covered in this module include the fundamentals of massage including the applied anatomy, pathophysiology, palpation skills and, code of conduct and ethical practice. It is expected that this course will help the physiotherapy students in determining the appropriateness of massage therapy as a treatment choice for their clients in their future practice.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Assess clients by applying the knowledge gained from human anatomy and physiology, kinesiology and also the pathology.
2. Develop client-centred treatment plan using various therapeutic massage techniques.
3. Ensure safe practice by complying with the scope of professional practice and continue professional development in this domain to demonstrate best practice.
4. Incorporate code of conduct and ethics related to massage therapy into professional practice.
5. Effectively interact with clients to establish mutual respect.
6. Demonstrate viable practice by ensuring self-care and self-awareness using appropriate tools and equipment.
7. Discuss the benefits of massage therapy with clients.
8. Explain the holistic effects of massage therapy including the physical, mental and the emotional aspects.

Course Outline

Week No.	Topic/Content	Teaching Method
1	Introduction to Massage Therapy	Lecture

2	Unit 1: Principles of Massage Therapy & the ethics of touch	Lecture
3	Unit 1: Safety protocol and body mechanics for the therapists performing massage	Lecture
4	Unit 2: Massage techniques	Lecture Hands-on Practical
5	Unit 2: Indications and contraindications for massage	Lecture
6	Unit 3: Assessment of the client and clinical reasoning the need for massage therapy	Lecture Hands-on Practical
7	Unit 4: Head and Neck techniques	Hands-on Practical
8	Midterm Exam and OSCE	
9	Unit 5: Pelvis and Spine techniques	Hands-on Practical
10	Unit 6: Shoulder Girdle techniques	Hands-on Practical
11	Unit 6: Forearm and Hand techniques	Hands-on Practical
12	Unit 7: Thigh and Hamstring techniques	Hands-on Practical
13	Unit 7: Leg and Foot Techniques	Hands-on Practical
14	Unit 8 and 9: Whole body massage sequencing	Hands-on Practical
15	Revision	
16	Final Exam and OSCE	

Course Assessment

Assessment Method	Weightage	Week Due
Skill mastery (Weekly activity log)	20%	Weekly
Midterm Exam (OSCE)	40%	8
Final Exam (OSCE)	40%	16
Total	100%	

Recommended Textbooks and Readings

1. Beck, M. (2017). Theory & practice of therapeutic massage (5th ed.). Boston, MA: Milady.
2. Braun, M. and Simonson, S. (2014). Introduction to massage therapy. Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins.
3. Rattray, F., Ludwig, L. and Beglin, G. (2005). Clinical massage therapy. Toronto: Talus Inc.

4. Salvo, S. (2016). *Massage Therapy Principles and Practice* (5th ed.). Missouri: Elsevier.

Additional reading:

1. Salvo, S. (2014). *Mosby's pathology for massage therapists*. St. Louis, Mo.: Elsevier/Mosby.
2. Werner, R. (2013). *A massage therapist's guide to pathology*. Philadelphia: Wolters Kluwer/Lippincott Williams & Wilkins Health.
3. Clay, J. and Pounds, D. (2008). *Basic clinical massage therapy* (2nd ed.). Philadelphia: Lippincott-Raven.

PTY063 – Physiotherapy in Primary Care

Course Pre-Requisite: PTY242	Course Co-Requisite: N/A
Credit Hours: 2	Semester/AY: TBD
Contact Hours: 3	Course Coordinator: Dr Pedro Borrego
Course Instructors: Abu Dhabi: Dr. Pedro Borrego (pedro.borrego@fchs.ac.ae) Al Ain: Dr. Pedro Borrego (pedro.borrego@fchs.ac.ae)	

Course Description

Physiotherapy in Primary Health Care is part of the elective training courses that students must overcome in the development of their curriculum.

The physiotherapy practice in Primary Care requires a high degree of professional competence and problem-solving capacity, since in this level the physiotherapist is the only one responsible for his/her work, his/her service manager and advise to the rest of the team in the field of physiotherapy. The course is intended to help future physiotherapists to improve these skills, which will be also very useful in private practice or at any other institution.

Course Learning Outcomes

1. Introduce and identify particularities of Physiotherapy in Primary Care and Community Services.
2. Identify most common diagnose patterns in Primary Care.
3. Recognize and identify the cases for referral.
4. Know the use of the interview and clinical reasoning in the process of Physiotherapy service in Primary Care.
5. Improve the student's ability to analyse the patient's health status and recognize the limits of his/her scope or practice.
6. Increase student's resolutive capability in Physiotherapy.

Course Outline

Week No.	Topic/Content	Teaching Method
1	Physiotherapy and Primary Care	Presentation: lectures and assessment system
2	Unit 1. Introduction to Physiotherapy in Primary Care I - The Primary Care Family Medicine Model in Abu Dhabi (UAE). - Primary Care Standards.	Lecture

3	Unit 2. Introduction to Physiotherapy in Primary Care II <ul style="list-style-type: none"> - Drawing up protocols for the tracking criteria, information and supporting clinical records. - Group Therapy. - Prevention. 	Lecture
4	Unit 3. Paradigms and Healthcare models in Primary Care. <ul style="list-style-type: none"> - The Biomedic Model. - The Biopsicosocial Model. - Types in Clinical Practice. 	Lecture
5	Unit 4. The clinical interview I <ul style="list-style-type: none"> - Objectives. - Planning. 	Lecture
6	Unit 5. The clinical interview II <ul style="list-style-type: none"> - Development. - Mistakes. 	Lecture
7	Review	
8	Midterm exam	
9	Unit 6: Clinical Reasoning in Physiotherapy <ul style="list-style-type: none"> - Introduction to clinical reasoning. - Solving clinical cases. 	Lecture
10	Unit 7: Objective and Subjective evaluation, treatment development and finalization I <ul style="list-style-type: none"> - Introducing the case. - Pain characteristics. - Finding the origin and causes. - Yellow flags. - Red flags. 	Lecture
11	Unit 8: Objective and Subjective evaluation, treatment development and finalization III <ul style="list-style-type: none"> - Examination guided by subjective evaluation. - Treatment planning based in evaluation and examination. - Re-evaluation and verification with patients. 	Lecture
12-13	Unit 9: Urgent Physiotherapy intervention in Primary Care I <ul style="list-style-type: none"> - Taping and kinesiotaping particularities. - Pretape and tape. - Main techniques for most common joints. 	Lecture Hands on - practical
14-15	Unit 10: Urgent Physiotherapy intervention in Primary Care II <ul style="list-style-type: none"> - Taping in MSK. - Taping in rheumatology. - Taping and muscle. - Risks and precautions. 	Hands on - practical
16	Final Exam	

Course Assessment

Assessment Method	Weightage	Week Due
Skill mastery (Weekly activity log)	20%	Weekly
Midterm Exam (Written)	40%	8
Final Exam (Written)	40%	16
Total	100%	

Recommended Textbooks and Readings

1. HAAD Standard for Primary Health Care in Emirate of Abu Dhabi.
2. Igwesi-Chidobe CN, Bartlam B, Humphreys K, Hughes E, Protheroe J, Maddison J, Bishop A. Patient direct access to musculoskeletal physiotherapy in primary care: perceptions of patients, general practitioners, physiotherapists and clinical commissioners in England. *Physiotherapy*. 2019 Jan 1;105:e31.
3. Widerström B, Rasmussen-Barr E, Boström C. Aspects influencing clinical reasoning and decision-making when matching treatment to patients with low back pain in primary healthcare. *Musculoskeletal Science and Practice*. 2019 Feb 20.
4. Décary S, Hébert LJ, Légaré F. Promoting high-quality physiotherapy to support Choosing Wisely recommendations. *Physiotherapy*. 2019 Mar 1;105(1):134-5.
5. Cochrane K. Electronic health records and the standard of note writing in community Physiotherapy. *Physiotherapy*. 2019 Jan 1;105:e140.
6. Yusuf M, Finucane L, Selfe J. Red flags for the early detection of Spinal Infection in back pain patients? A systematic scoping review. *Physiotherapy*. 2019 Jan 1;105:e162.
7. Chang AT, Gavaghan B, O'Leary S, McBride LJ, Raymer M. Do patients discharged from advanced practice physiotherapy-led clinics re-present to specialist medical services?. *Australian Health Review*. 2018 Jun 26;42(3):334-9.
8. Lucas F, Langridge N. Evaluation of treatments and outcomes, red flags and signs and symptoms for cervicogenic headache, in a musculoskeletal setting. *Physiotherapy*. 2019 Jan 1;105:e205-6.

PTY064 – Educational opportunities for Physiotherapists

Course Pre-Requisite: PTY242	Course Co-Requisite: PTY437
Credit Hours: 2	Semester/AY: 1 or 2/Year 3
Contact Hours: 2	Course Coordinator: Sunitha Mysore
Course Instructors: Abu Dhabi: Sunitha Mysore (sunitha.mysore@fchs.ac.ae) Al Ain: Sunitha Mysore (sunitha.mysore@fchs.ac.ae)	

Course Description

This elective course in education provide students the opportunities to explore post-graduate career pathways in physiotherapy both within the UAE and abroad. This course work as a complimentary and extension to Transition to Health Practice (THP). Using blended learning approach, this course prepares students for their future studies and work beyond the UAE.

The course helps to gain an understanding of physiotherapy practice in an international context. Topics explored within this course will help students to prepare for their future career pathway and develop personal development portfolio. This course is helpful for those students who are looking to pursue their higher degree in physiotherapy and/or work beyond the UAE. This course is suitable for those in their final year of their degree programme.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Explore the post-graduate opportunities in physiotherapy available for graduates both within and outside the UAE to further their career.
2. Examine the alternate post-graduate career pathways available for physiotherapy graduates both within and outside the UAE including certification and specialty courses.
3. Review and appraise the differences in physiotherapy practices in various regions around the globe and compare that with the UAE physiotherapy practice.
4. Discuss the role of professional bodies including World Confederation of Physiotherapy.
5. Identify and critique at least three different post-graduate pathways available for graduates in physiotherapy.
6. Produce professional development plan for the next three years based on their own academic, personal, financial and social situation.

Course Outline

Week No.	Topic/Content	Teaching Method
1	Unit 1 Introduction to the course Exploring variety of occupational roles in physiotherapy including clinical, educational, and research.	Lecture Facilitated group work
2	Unit 2 Why post-graduate education? Physiotherapy post-graduate education opportunities in the UAE, GCC and other MENA regions (Requirements and selection processes).	Lecture
3	Unit 3 Physiotherapy post-graduate education beyond UAE with the particular focus on the UK, US and Australia. Alternate post-graduate career pathways for physiotherapy graduates. Eg: Sports physiotherapy, Hypnotherapy	Lecture
4	Unit 4 Certification and specialty courses available for physiotherapy graduates Eg: Bobath, Mulligan, Sports Massage, Injection therapy, Hydrotherapy. Exploring your interest and the experience required.	Lecture Self-exploratory session
5	Unit 5 Regional differences in physiotherapy practice UAE vs UK, UAE vs US and UAE vs GCC. Country specific requirements. Where does your educational credential fit? Choosing the right course.	Lecture
6	Unit 6 Regulation of physiotherapy practice: Role of WCPT and local professional bodies. Exploring the differences HAAD vs Emirates Physiotherapy Society.	Lecture Facilitated group work
7	Assessment preparation	Supervision and self-study time
8	Midterm	
9	Assessment 1: Group Presentation (LO1 –LO3) Identify and critique at least 3 different post-graduate pathways available for physiotherapy graduates.	Student presentations and feedback
10	Unit 8 Continuous professional development: Capturing evidence of learning and achievements. Maintaining e-portfolio.	Lecture

11	Unit 9 Reflective practice in physiotherapy. Professional networking and joining special interest groups.	Lecture
12	Unit 10 Research careers and training	Lecture
13	Unit 12 You as a researcher	Explorative work
14	Unit 13 Planning ahead and personal development review	Explorative work
15	Assessment preparation	Self- directed study
16	Assessment 2: Assignment (LO4 –LO6)	PDR submission via LMS

Course Assessment

Assessment Method	Weightage	Week Due
Group Presentation	40%	9
Proposal of personal development plan	60%	16
Total	100%	

Recommended reading and useful websites

1. Continuing professional development (CPD) <https://www.wcpt.org/node/33159>
2. Department of Health, Abu Dhabi <https://www.haad.ae/haad/>
3. Emirates Physiotherapy Society, UAE <http://www.uaephysio.org/index.php>
4. Taylor J B. (2010). *Reflective practice for healthcare professionals. Third edition. Open University Press, Mc-Graw Hill Education*
5. World Confederation of Physical Therapy (WCPT) <https://www.wcpt.org/>
6. Working and studying in another country <https://www.wcpt.org/node/29331>

PTY065 – Complementary Therapies

Course Pre-Requisite: PTY242	Course Co-Requisite: N/A
Credit Hours: 2	Semester/AY: 1 or 2/Year 3
Contact Hours: 3	Course Coordinator: Ana Anjos
Course Instructors: Abu Dhabi: Ana Anjos (ana.anjos@fchs.ac.ae) Al Ain: Ana Anjos (ana.anjos@fchs.ac.ae)	

Course Description

This course covers aspects of traditional Chinese medicine focusing on acupuncture, tui-na, cupping, moxibustion and auriculotherapy, its regulation and application. It reviews Eastern millennial knowledge, including a simplified approach to leading theories of Chinese medicine like Yin and Yang, Five Movements, and the Channels or Meridian System. It discusses recent studies relating the practice of this complementary therapy with the pain and the treatment of several western pathologies.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Understand the basic concepts of Traditional Chinese Medicine.
2. Knowledge the neurophysiological basis of pain and the analgesic mechanism of Acupuncture.
3. Knowledge of basic points – their anatomo-functional correlations and indications
4. Evaluate and understand clinical outcomes of Acupuncture and recognize the possible complications of the application of acupuncture.
5. Integrate neuromuscular and diagnostic exams into Adults and Paediatric Tui-Na therapy and apply Basic Tui-Na manipulation techniques in children and adults.
6. Understand and relate the application of moxibustion and cupping to acupuncture points.
7. Describe the auricular system and locate its points, apply the therapeutic procedures of auriculotherapy in the treatment of pain and musculoskeletal disorders.

Course Outline

Week No.	Topic/Content	Teaching Method
1	Unit 1:	
	Historical Evolution and contextualization of Acupuncture Evidences and clinical indications in Acupuncture	Lecture 1
	Basic theories of Meridians 1	Lecture 2

2	Unit 2:	
	Basic theories of Meridians 2	Lecture 3
	Acupuncture points 1	Practical 1
3	Unit 3:	
	Causes of diseases, agents and constitution 1	Lecture 4
	Acupuncture points 2	Practical 2
4	Unit 4:	
	Causes of diseases, agents and constitution 2	Lecture 5
	Acupuncture points 3	Practical 3
5	Unit 5:	
	Clinical usage of the basic points. Myofascial pain syndrome	Lecture 6
	Acupuncture techniques 1	Practical 4
6	Unit 6:	
	Diagnostic in Chinese Medicine	Lectures 7
	Acupuncture techniques 2	Practical 5
7	Unit 7:	
	Clinical Reasoning in Acupuncture 1	Practical 6
	Clinical Reasoning in Acupuncture 2	Practical 7
8	Mid-Term Exams	
9	Unit 8:	
	Basic theory of Tui-Na	Lecture 8
	Tui-Na Techniques 1	Practical 8
10	Unit 9:	
	Indications, contra-indications and functions of Tui-Na	Lecture 9
	Tui-Na Techniques 2	Practical 9
11	Unit 10:	
	Paediatric Tui-Na	Lecture 10
	Basic Tui-Na manipulation techniques in infants and children for clinical diagnosis	Practical 10
12	Unit 11:	
	Basic Theory of Moxibustion and Cupping	Lecture 11
	Moxibustion and Cupping Techniques	Practical 11

13	Unit 12:	
	Basic Theory of auriculotherapy. Auricular system and points	Lecture 12
	Auriculotherapy points	Practical 12
14	Unit 13:	
	Skills Mastery: Consolidation of skills	Practical 13
	Skills Mastery: Consolidation of skills	Practical 14
15/16	Revisions	Lecture
	Final Exams	

Course Assessment

Assessment Method	Weightage	Week Due
Midterm Exam	30%	8
Final OSCE	40%	11
Final Exam	30%	16
Total	100%	

Recommended Textbooks and Readings

1. Maciocia, G. (2015). The foundations of Chinese medicine (3rd ed.). Edinburgh, Scotland: Churchill Livingstone. [ebook available].
2. Qiao, Y., & Stone, A. (2008). Traditional Chinese medicine diagnosis study guide. Seattle, WA: Eastland Press.
3. Kaptchuk, T. (2000). Chinese medicine: The web that has no weaver. London, England: Rider.
4. Wang, B., & Wu, L. (1997). Yellow Emperor's canon of internal medicine. Beijing, China: Chinese Science & Technology Press.
5. Wang, H. (2010). Diagnostics of traditional Chinese medicine. London, England: Singing Dragon.
6. Wu, H.Z. (2013). Fundamentals of traditional Chinese medicine. Hackensack, NJ: World Century.
7. Hempen, CarlHerman et al (2006) ; Pocket Atlas of Acupuncture, Thieme, 2006.
8. Porkert, Manfred (1999); The Essentials of Chinese Diagnostics, Acta Medicinæ Sinensis. Chinese Medicine Publications Ltd. Zürich, Switzerland.
9. Hempen, CarlHerman et al (2006); Pocket Atlas of Acupuncture, Thieme.
10. Kapner, Weizhong (2011); Tuina Therapy: Treatment for Adults and Children. Thieme

Additional reading:

1. Chang, X. (2012). Illustrated Chinese moxibustion techniques and methods. London, England: Singing Dragon.
2. Hecker, Hans-Ulrich, et al. (2005). Practice of acupuncture. Thieme. Stuttgart. Germany.
3. Wilcox, L. (2009). Moxibustion: a modern clinical handbook. Boulder, CO: Blue Poppy Press.
4. Kam-Chuen, Lam (1991); The way of energy: Mastering the Chinese Art of Internal Strength with Chi Kung Exercises. Simon & Schuster Inc.

PTY066 – Orthotics and Prosthetics

Course Pre-Requisite: PTY242	Course Co-Requisite: N/A
Credit Hours: 2	Semester/AY: 1 or 2/Year 3
Contact Hours: 3	Course Coordinator: Marian Gabor
Course Instructors: Abu Dhabi: Marian Gabor (marian.gabor@fchs.ac.ae) Al Ain: Marian Gabor (marian.gabor@fchs.ac.ae)	

Course Description

This elective course will deliver relevant information to physiotherapy students regarding management of patients with orthoses and amputees prescribed with prosthetic devices. This course aims to introduce physiotherapy students regarding spinal orthoses, upper limb prosthetics and orthotics, and lower limb prosthetics and orthotics. In relation to introducing the devices that students may encounter in clinical practice, students will also learn about appropriate fitting, care of devices and exercise prescription. A revision of gait assessment and gait training will be so students can conduct a conceptual application for patients with lower limb prosthesis.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Identify the different orthotic and prosthetic devices, their parts, measurement, fitting, mechanism, indications and proper care.
2. Apply exercise prescription knowledge to patients that require the use of orthoses and prostheses.
3. Integrate prior knowledge of gait assessment and training in dealing with amputees ready for prosthetic fitting and use.
4. Construct a simple soft cervical collar, upper limb and lower limb splints made of thermoplastic materials.

Course Outline

Week No.	Topic/Content	Teaching Method
1	Course induction <ul style="list-style-type: none">- Course administration- Weekly schedule- Assessment tasks	Lecture
2	Unit 1. Principles of orthoses and prostheses <ul style="list-style-type: none">- Physical stress theory- Members of the rehabilitation team- Materials	

3	Unit 2. Spinal Orthoses I - Thoraco-lumbar orthoses Lumbar orthoses	Lecture
4	Unit 3. Spinal Orthoses II - Cervical orthoses Cervico-thoraco-lumbo-sacral orthoses	Lecture
5	Unit 4. Fabricating a soft cervical collar	Hands-on workshop
6	Unit 5. Upper limb prostheses - Types - Parts - Check-out - Residual limb care	Lecture
7	Unit 6. Upper limb orthoses I - Types - Parts	Lecture
8	Unit 7. Upper limb orthoses II - Check-out - Evidence-based practice	Lecture
9	Unit 8. Fabricating a wrist cock-up splint	Hands-on workshop
10	Unit 9. Fabricating a functional hand splint and resting hand splint	Hands-on workshop
11	Unit 10. Lower limb prostheses - Types - Parts - Check-out	Lecture
12	Unit 11. Gait in amputee - Gait analysis and gait deviations - Pre-prosthetic gait training - Prosthetic gait training - Level surface, stairs and curbs	Laboratory
13	Unit 12. Lower limb orthoses - Types - Parts - Check-out - Evidence-based practice	Lecture
14	Unit 13. Fabricating an AFO	Hands-on workshop
15	Revision	Lecture
16	Final Exam	

Course Assessment

Assessment Method	Weightage	Week Due
Spinal orthosis project	20%	Week 5
Upper limb orthosis project	20%	Week 9 and 10
Lower limb orthosis project	20%	Week 14
Final Exam	40%	Week 16
Total	100%	

Recommended Textbooks and Readings

There is no textbook required for this course. The following are recommended references.

1. British Society of Rehabilitation Medicine. (2018). *Amputee and Prosthetic Rehabilitation – Standards and Guidelines*. London: British Society of Rehabilitation Medicine. Retrieved from <https://www.bsrn.org.uk/downloads/prosthetic-amputeerehabilitation-standards-guidelines-3rdedition-webversion.pdf>
2. Cifu, D. (2015). *Braddom's Physical Medicine and Rehabilitation* (5th ed.). Elsevier.
3. Department of Veterans Affairs and Department of Defense. (2014). *VA/DoD Evidence-Based Clinical Practice Guideline for the Management of Upper Extremity Amputation Rehabilitation*. Retrieved from <https://www.healthquality.va.gov/guidelines/Rehab/UEAR/VADoDCPGManagementOfUEAR090214FINAL2508.pdf>
4. Department of Veterans Affairs and Department of Defense. (2017). *VA/DoD Clinical Practice Guideline for Rehabilitation of Individuals with Lower Limb Amputation*. Retrieved from <https://www.healthquality.va.gov/guidelines/Rehab/amp/VADoDLLACPG092817.pdf>
5. Edelstein, J., & Moroz, A. (2010). *Lower-Limb Prosthetics and Orthotics* (1st ed.). New Jersey: Slack Incorporated.
6. Fess, E., Gettle, K., Philips, C., & Janson, R. (2005). *Hand and Upper Extremity Splinting: Principles and Methods* (3rd ed.). St. Louis, MO: Mosby.
7. Frontera, W., Gans, B., Walsh, N., & Robinson, L. (2010). *DeLisa's Physical Medicine & Rehabilitation: Principles and Practice* (5th ed.). Philadelphia: Lippincott Williams & Wilkins.
8. Lusardi, M., Jorge, M., & Nielsen, C. (2012). *Orthotics and Prosthetics in Rehabilitation* (3rd ed.). St- Louis, Mo: Elsevier Saunders.
9. Nawoczenski, D., & Epler, M. (1997). *Orthotics in functional rehabilitation of the lower limb*. Philadelphia: Saunders.
10. Seymour, R. (2002). *Prosthetics and Orthotics: Lower Limb and Spine* (1st ed.). Philadelphia: Lippincott Williams & Wilkins.

Additional reading:

1. Coppard, B., & Lohman, H. (2008). *Introduction to Splinting: A Clinical Reasoning and Problem-Solving Approach* (3rd ed.). St. Louis: Mosby Elsevier.
2. May, B., & Lockard, M. (2011). *Prosthetics & Orthotics in Clinical Practice: A Case Study Approach* (1st ed.). Philadelphia: F.A. Davis.
3. O'Sullivan, S., Schmitz, T., & Fulk, G. (2019). *Physical Rehabilitation* (7th ed.). Philadelphia: F.A. Davis.

PTY067 – Sports Physiotherapy

Course Pre-Requisite: PTY242	Course Co-Requisite: N/A
Credit Hours: 2	Semester/AY: 1 or 2/Year 3
Contact Hours: 3	Course Coordinator: Dr. Fahad Alanazi
Course Instructors: Abu Dhabi: Dr Fahad Alanazi (fahad.alanazi@fchs.ac.ae) Al Ain: Dr Fahad Alanazi (fahad.alanazi@fchs.ac.ae)	

Course Description

This course focuses on the basic concepts, knowledge, and skills that provide the scientific base, with the ability to evaluate, treat, safe & effectively the various sports injury cases, bone fractures & joint related to accidents from the physical therapy point of view that are consistent with the needs of the patient and society.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Recognize the current concepts & theories with evidence-based practice for the health promotion & preventative activities in different sports in order to improve the quality of care.
2. Design an appropriate & effective intervention using reliable outcome tools in consistent with the needs & goals of the client.
3. Appraise an evidence-based approach, research & references to acquire new knowledge that improve own practice in sports medicine & traumatology.
4. Perform safely & effectively the required tests & measures for the client assessment & intervention appropriately within the scope of physical therapy practice.
5. Describe, perform, analyse and document accurate and appropriate skills related to tests and measures of physical therapy assessment and intervention including measurements, balance and postural assessment, select muscle flexibility and osseous tests, goniometry, integumentary integrity, joint integrity, and mobility, pain, muscle performance, gait and locomotion analysis and neuro-sensory testing.

Course Outline

Week No.	Topic/Content	Teaching Method
1	Basic Evaluation and Postural Analysis	Lecture
2	Self-report and Physical Performance Testing	Lecture Hands on practical

3	<p>Introduction to sports medicine:</p> <ul style="list-style-type: none"> • The sports medicine team. • The sports medicine models. • Classification of sports injuries. • Sports medicine assessment sheet and RICE principle. 	<p>Lecture</p> <p>Hands on practical</p>
4	<p>Principles of injury prevention:</p> <ul style="list-style-type: none"> • Systemic injury prevention. • External and internal risk factors. • Important factors in the prevention of injury and principles of training. 	<p>Lecture</p>
5	<p>Shoulder pain:</p> <ul style="list-style-type: none"> • Categories of shoulder pain. • Impingement syndrome. • Rotator cuff strain/tear. • Glenoid labrum injury. • Acromioclavicular joint injuries. <p>QUIZ 1</p>	<p>Lecture</p> <p>Hands on practical</p>
6	<p>Elbow and arm pain:</p> <ul style="list-style-type: none"> • Lateral elbow pain. • Medial elbow pain. • Posterior elbow pain. • Arm pain. 	<p>Lecture</p> <p>Hands on practical</p>
7	<p>Acute and Chronic hip and groin pain:</p> <ul style="list-style-type: none"> • Adductor muscle strain. • Iliopsoas strain. • Osteitis pubis. 	<p>Lecture</p> <p>Hands on practical</p>
8	Midterm exams and OSCE	
9	<p>Lower leg injuries:</p> <p>Assessment and physical therapy management of calf pain and Achilles tendon pain.</p>	<p>Lecture</p> <p>Hands on practical</p>
10	<p>Lower leg injuries:</p> <p>Assessment and physical therapy management of calf pain and Achilles tendon pain.</p>	<p>Lecture</p> <p>Hands on practical</p>
11	Balance and Coordination Testing	<p>Lecture</p> <p>Hands on practical</p>
12	<p>Gait Analysis</p> <p>Motion Analysis of Gait</p> <p>QUIZ 2</p>	<p>Lecture</p> <p>Hands on practical</p>
13-14	Revision	
15	OSCE EXAM	
16	Final Written Examination	

Course Assessment

Assessment Method	Weightage	Week Due
# Quizzes	30%	5, 12
Midterm Exam	30%	8
Final Exam	40%	16
Total	100%	

Recommended Textbooks and Readings

1. Brukner, P. (2013). Brukner & Khan's clinical sports medicine (4th ed.). Sydney, Australia: McGraw-Hill Education Medical.

THIRD YEAR

TERM 2

PTY316 – Human Biosciences 6

Course Pre-Requisite: PTY315, PTY325, PTY335	Course Co-Requisite: PTY326, PTY336
Credit Hours: 3	Semester/AY: 2/Year 3
Contact Hours: 3	Course Coordinator: Ana Anjos
Course Instructors: Abu Dhabi: Ana Anjos (ana.anjos@fchs.ac.ae) Al Ain: Dr. Balkhis Banu (Balkhis.banu@fchs.ac.ae)	

Course Description

This course aims to provide the knowledge and skills that underpin physiotherapy practice in medical and surgical conditions. It includes a systems approach to Human Biosciences that focuses on the anatomy and physiology and the pathophysiology of the medical and surgical conditions including the applied anatomy.

The objective of the discipline of Human Anatomy and Physiology is to give concrete knowledge ("hands-on") about the architecture of the human body and how this structural arrangement relates to the functions performed by each organ or organic system. In its anatomical aspect, the discipline involves observation and manipulation through models; in its physiological aspect, it is intended that the student understands physiological concepts of the human body.

The curriculum content delivered throughout the Human Biosciences 6: Medical and surgical conditions 2 is intended to support Physiotherapy Practice 6 and Physiotherapy Theory 6 that will be delivered concurrently during the semester 2 of Year 3 of the Physiotherapy program.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Recall the fundamental concepts of structure (Anatomy) and function (Physiology) of the various components of the human body.
2. Identify the human anatomy and the organic systems and their interconnections.
3. Identify basic anatomical structures and landmarks.
4. Describe the normal physiology processes of the female and male reproductive system
5. Explain the mechanism of cancer, burns and lymphedema and its recovery.
6. Explain the principles of pharmacological management of medical-surgical conditions as applicable to obesity, diabetes, oncology, burns, amputations, gerontology, pelvic floor disorders, etc.

Course Outline

Week No.	Topic/Content	Teaching Method
1	Unit 1: Introduction 1.1 Introduction about the course plan and assessments 1.2 Bone tissue & joints: joints classification & types review. Physiology of fat tissue.	Lectures
2	Unit 2: Lymphatic and immunity system 2.1 The lymphatic vessels, nodes and ducts. 2.2 Role of lymphatic system in innate immunity.	Lectures
3	Unit 3: Oncology 3.1 Pathophysiology of different cancers 3.2 Metastasis and its evolution	Lectures
4	Unit 4: Integumentary system 4.1 Skin structure, types, function, wound healing. 4.2 Wound prevention and management cycle. 4.3 Burns.	Lectures
5	Unit 5: TMJ 5.1 Anatomy, biomechanics and physiology of Temporomandibular Joint (TMJ), Muscles of Chewing, face and cervical/Physiology and Pathology of TMD Dysfunctions; 5.2 Biomechanical relationship of cervical, posture and TMJ/ Biomechanical relationship of occlusion and TMD;	Lectures
6	Unit 6: Amputation 6.1 Revision of lower and upper limb. Common sites for amputation. 6.2 Epidemiology of lower and upper limb amputations/Levels of amputation	Lectures
7	Midterm Revision	Midterm Revision
8	Midterm Written Exam	Midterm Written Exam
9	Unit 9: Aquatics 9.1 Review of relevant anatomy of the conditions that require aquatic therapy 9.2 Review of relevant physiology of the conditions that require aquatic therapy	Lectures
10	Unit 10: Abdominal wall 10.1 The anterior abdominal wall anatomy 10.2 The posterior abdominal wall and abdominal organs anatomy	Lectures
11	Unit 11: Gerontology 11.1 Mechanism of aging 11.2 Concepts and Physiological Alterations of Aging/ Social and Psychological Aspects of Aging	Lectures

12	Unit 12: Therapy of the pelvic floor 12.1 Female and male anatomy of the pelvic floor 12.2 Female and male physiology of the pelvic floor	Lectures
13	Unit 13: Therapy of the pelvic floor 13.1 Reproductive system (overview of the reproductive systems in male & female) 13.2 Physiology of micturition/Obstetrics stages of labour	Lectures
14	End semester revision week	End semester revision week
15	End semester exam week	End semester exam week

Course Assessment

Assessment Method	Weightage	Week Due
Midterm Written Exam	30%	Week 8
Quizzes	30%	Week 5 and 11
Final Written Exam	40%	Week 15
Total	100%	

Recommended Textbooks and Readings

1. Silverthorn, D.U. (2015) Human Physiology: an integrated approach. (7th Ed) San Francisco: Pearson Benjamin Cummings
2. Netter F. H. (2014) Atlas of human anatomy (6th ed). Philadelphia: Saunders Elsevier
3. Moore, K. L. & Dalley, A. F. (2013). Clinically oriented anatomy (7th ed) Philadelphia: Lippincott Williams & Wilkins.
4. Tortora, G. & Derrickson, B.(2011). Principles of Anatomy & Physiology. 13th edition.
5. Grace, P. A., & Borley, N. R. (2009). Surgery at a glance (4th ed.). Chichester, UK: Wiley-Blackwell.
6. Palastanga, N. (2006). Anatomy & Human Movement: Structure & Function.
7. Van der El, A. (2009). Orthopaedic manual Therapy Diagnosis: Spine and Temporomandibular Joint (1st ed.). Jones & Bartlett Learning
8. Smith, D. G., Michael, J. W., Bowker, J. H. (2004). Atlas of amputations and limb deficiencies (3rd ed.). American Academy of Orthopaedic Surgeons.
9. Calais-Germain, B. (2003). The female Pelvis Anatomy and Exercises. Illustrated edition. Eastland Press.

PTY326 – Physiotherapy Theory 6 – Medical & Surgical Conditions

Course Pre-Requisite: PTY315, PTY325, PTY335, GRD251	Course Co-Requisite: PTY316, PTY336
Credit Hours: 3	Semester/AY: 2/Year 3
Contact Hours: 3	Course Coordinator: Dr. Balkhis Banu
Course Instructors: Abu Dhabi: Ana Anjos (ana.anjos@fchs.ac.ae) Al Ain: Dr. Balkhis Banu (Balkhis.banu@fchs.ac.ae)	

Course Description

This course continues to provide and further develop the knowledge and skills that underpin physiotherapy clinical practice. Applied practice will consolidate core areas across a range of pathologies including the relevant physiotherapy and medical management. The semester will also introduce several specialty areas of clinical practice. This course aims to further develop clinical competencies integral to physiotherapy practice. It focuses on the incorporation of the best available research evidence with the clinical reasoning skills of assessment, management and evaluation for clients across the lifespan. This course also focuses on 'specialty areas' such as women's health, abdominal surgeries; medical and surgical cases; upper and lower limb amputations, aquatic concepts etc. and extends previously acquired skills in manual handling, postural assessment, electro physical agents, and clinical learning.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Describe the components of medical and surgical conditions, upper and lower limb amputations, Women's health conditions and its implications for physiotherapy practice.
2. Explain the pathophysiological basis of common conditions related to the appendicular and axial skeleton along with organs in adult population.
3. Discuss the principles of recovery, assessment, and management of physiotherapy for medical and surgical conditions, upper and lower limb amputations, Women's health conditions, etc.
4. Analyse and solve problems for assessment and management skills about the following conditions: upper and lower limb amputations, biomechanics of gait, progressive illnesses, pelvic girdle dysfunction, aquatic concepts, medical and surgical conditions etc.
5. Develop an understanding of the importance of teamwork.
6. Recognize the importance of effective communication and working with peers and tutors.

Course Outline

Week No.	Topic/Content	Teaching Method
1	Unit 1: Introduction/ Orientation 1.2 Introduction about the course plan and assessments 1.2 Obesity/Diabetes	Lectures
2	Unit 2: Lymphedema 2.1 Lymphedema 2.2 Post Thyroidectomy	Lectures
3	Unit 3: Oncology 3.1 History, Panorama and Advances of Physiotherapy in Oncology 3.2 Interdisciplinary treatment in cancer patients	Lectures
4	Unit 4: Burns 4.1 Concept (definition) and Classification of burns/Epidemiology 4.2 Urgency, emergency and screening/ Surgical Procedures/Types of healing/ Physical Therapy Approach	Lectures Quiz 1
5	Unit 5: Temporo-mandibular joints 5.1 Diagnostic Criteria for TMD/ Differential diagnosis. 5.2 -Intervention of the physiotherapist in the dysfunctions of the cranio-cervico-mandibular complex/ Physiotherapy & Maxillofacial Surgery	Lectures
6	Unit 6 Amputation 6.1 Etiology, types and levels of amputation/ Classification of prostheses 6.2 Physiotherapeutic treatment in the pre-amputation, post-amputation, pre-prosthetics and post-prosthetics	Lectures
7	Midterm Revision	Midterm Revision
8	Midterm Written Exams	Midterm Written Exams
9	Unit 9: Aquatic Concepts 9.1 Aquatic therapy concepts 9.2 Conditions can be treated by aquatic therapy	Lectures
10	Unit 10: ICU Care 10.1 ICU conditions and its management 10.2 Abdominal surgeries	Lectures
11	Unit 11: Gerontology 11.1 - Social and Psychological Aspects of Aging/ Physiotherapy Applied to Aging 11.2 - Major Diseases Related to Aging/ General principles of exercise prescription/General treatment considerations	Lectures Quiz 2

12	Unit 12: Therapy of the Pelvic Floor I 12.1 – Downward displacement of the uterus- Definition, etiology, types and clinical features 12.2 – Backward (retroversion flexion) displacement of the uterus – definition, degrees, etiology, prophylactics, conservative, pre and post-operative management	Lectures
13	Unit 13: Therapy of the Pelvic Floor II 13.1 Dysmenorrhea and hysterectomy 13.2 Urinary incontinence and menopause	Lectures
14	End semester revision week	End semester revision week
15	End semester Written Exam	End semester Written Exam

Course Assessment

Summative Assessment Tasks	Weighting	Relevant Learning Outcomes	Due Date
AT1 Midterm Written Examinations	40%	1-5	Week 7
AT2 Quiz	20%	1 and 5	Week 4 and Week 11
AT3 Final Written Examinations	40%	1-5	Week 15
Formative / Hurdle Tasks			
AT4 Professional Conduct	Hurdle	6-7	
AT5 Attendance Record	Hurdle		

Recommended Textbooks and Readings

1. Porter, S. B. (2013). Tidy's physiotherapy (15th ed.). Edinburgh: Saunders Elsevier.
2. O'Young, B. J., Young, M. A., & Stiens, S. A. (2008). Physical medicine and rehabilitation secrets (3rd ed.). Philadelphia, PA: Mosby Elsevier.
3. Magee, D (2002): Orthopedic physical examination, 4th edition, Saunders Company
4. Fairchild, S. L., O'Shea, R. K., Washington, R. (2017). Principles and Techniques of Patient Care (6th ed.). Saunders.
5. Calais-Germain, B. (2003). The female Pelvis Anatomy and Exercises. Illustrated edition. Eastland Press.
6. Guccione, A. A., Wong, R., Avers, D. (2011). Geriatric Physical Therapy (3rd ed.). Mosby
7. Wilk, K. E., Joyner, D. J. (2013) the use of Aquatics in Orthopaedic conditions and Sports Medicine Rehabilitation and Physical Conditioning (1st ed.). Slack Incorporated
8. Brody, L. T., Geigle, P. R. (2009). Aquatic Exercise for Rehabilitation and Training. Human Kinetics

9. Smith, D. G., Michael, J. W., Bowker, J. H. (2004). Atlas of amputations and limb deficiencies (3rd ed.). American Academy of Orthopaedic Surgeons.
10. Smith, E., Bowker, J. H., Smith, D. G. (2005). Atlas of amputations and limb deficiencies: Surgical, prosthetic and rehabilitation principles (3rd ed.). American Academy of Orthopaedic Surgeons.
11. Van der El, A. (2009). Orthopaedic manual Therapy Diagnosis: Spine and Temporomandibular Joint (1st ed.). Jones & Bartlett Learning
12. Stegenga, B. (2012). Management of Temporomandibular Joint degenerative diseases: Biologic basis and treatment outcome. Birkhauser
13. Hultman, C. S., Neumeister, M. W. (2017). Burn Care: reconstruction, rehabilitation and recovery (1st ed.). Elsevier
14. Kamolz. L. (2012) Handbook of Burns. Reconstruction and rehabilitation (1st ed.). Springer

PTY336 – Physiotherapy Practical 6 – Medical & Surgical Conditions

Course Pre-Requisite: PTY315, PTY325, PTY335, GRD251	Course Co-Requisite: PTY316, PTY326
Credit Hours: 4	Semester/AY: 2/Year 3
Contact Hours: 8	Course Coordinator: Dr. Balkhis Banu
Course Instructors: Abu Dhabi: Ana Anjos (ana.anjos@fchs.ac.ae) Al Ain: Balkhis Banu (Balkhis.banu@fchs.ac.ae)	

Course Description

This practical course provides learning opportunities in application of theoretical concepts to the practice of physiotherapy. Students will therefore put into practice their knowledge and skills in core areas across a range of pathologies including the relevant physiotherapy and medical management.

This course aims to further develop clinical competencies integral to physiotherapy practice. It focuses on the incorporation of the best available research evidence with the clinical reasoning skills of assessment, management and evaluation for clients across the lifespan. This course also focuses on 'specialty areas' such as women's health, abdominal surgeries; medical and surgical cases; upper and lower limb amputations, aquatic concepts etc. and extends previously acquired skills in manual handling, postural assessment, electro physical agents, and clinical learning.

The curriculum content delivered throughout the Physiotherapy Practice: Medical and surgical conditions course practical 2 is intended to complement other clinical practice/ clinical visits/clinical training course curricula where in students will be having opportunity to explore different hospitals for training concurrently throughout the year 4 of the Physiotherapy program.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Recall relevant structure and function for physiotherapy assessment and management.
2. Restate the underlying principles of physiotherapy assessment and management based on human biosciences and conditions.
3. Conduct a clinical interview and use the information collected from the evaluation process so that will be able to make a specific and efficient intervention plan according to the medical-surgical condition
4. Analyse and solve the problems related to surgical-medical conditions such as: cranio-cervical pain, temporomandibular joint disorders, Lymphedema, Oncology,

Amputations, Women's health, etc, based on the latest scientific evidence; to acquire strategies for the evaluation and diagnosis of dysfunctions of the same conditions; to master the main features and tools of treatment.

5. Identify anatomical landmarks from surface anatomy.
6. Develop skills for safe physiotherapy techniques including therapeutic exercises, aquatic therapy and electro physical agents with appropriate manual handling.
7. Recognize the importance of effective communication and working with peers.

Course Outline

Week No.	Topic/Content	Teaching Method
1	Unit 1: 1.3 Introduction about the course plan and assessments 1.2 Transferable skills 1.4 Obesity and Diabetes assessment and PT treatment 1.4 Physiotherapy in Obesity and Diabetes and the value of the scientific evidence	Practical demonstration and tutorial
2	Unit 2: 2.1 Human Bioscience Revision 2.2 Lymphedema assessment and PT treatment 2.3 Post thyroidectomy assessment and PT treatment 2.4 Physiotherapy in Lymphedema and the value of the scientific evidence	Practical demonstration and tutorial
3	Unit 3: 3.1 Functional evaluation of the oncological patient (Outcome measures) 3.2 Individual and group practice exercises (Exercise tolerance and deconditioning, mobility, fatigue) 3.3 Impact of oncological treatment on skin 3.4 Oncological Physiotherapy and the value of the scientific evidence	Practical demonstration and tutorials
4	Unit 4: 4.1 Physical Therapy approach in burns and wound care 4.2 Physiotherapeutic Resources/ Use of orthoses and compression dressing 4.3 Articular Positioning/ Treatment of Scars/ Prevention and First Aid/ Wound care: prevention and management. 4.4 Physiotherapy in burns and wound care and the value of the scientific evidence	Practical demonstration and tutorials
5	Unit 5: TMJ disorders 5.1 - Clinical evaluation in Physical Therapy (static and dynamic observation, palpation, mobility, complementary means of diagnosis and registration). 5.2 - Intervention of the physiotherapist in the dysfunctions of the cranio-cervico-mandibular complex. 5.3 - Physiotherapy & Maxillofacial Surgery 5.4 - Scientific evidence in TMDs/Clinical Reasoning	Practical demonstration and Tutorials
6	Unit 6: Amputation 6.1 – Physiotherapy evaluation of the person with amputation	Practical demonstration

	6.2 - Bandages, interfaces, positioning, scarring, pain control, functional re-education 6.3 – Teaching and counseling in the pre- and post-prosthesis phases 6.4 - Functional training with prosthesis	
7	Midterm Revision	Midterm Revision
8	Midterm OSCE and VIVA	Midterm OSCE and VIVA
9	Unit 9: Aquatic Concepts 9.1 Human Bioscience Revision 9.2 Assessment and PT interventions 9.3 Assessment and PT interventions 9.4 Hydrotherapy and the value of the scientific evidence	Practical demonstration and tutorial
10	Unit 10: ICU Care 10.1 Human Bioscience Revision 10.2 Assessment and PT interventions - ICU 10.3 Assessment and PT interventions- Abdominal surgeries 10.4 Physiotherapy in Abdominal surgeries and the value of the scientific evidence	Practical demonstration and tutorials
11	Unit 11: Gerontology 11.1 – Functional evaluation of the elderly (Outcome measures) 11.2 – Progressive resistance training, Endurance training, functional strength training 11.3 – Balance re-education, walking aid provision, gait re-education, teaching the patient how to get off the floor and coping strategies 11.4 – Physiotherapy in Gerontology and the value of the scientific evidence	Practical demonstration and tutorials
12	Unit 12: Therapy of the pelvic floor 12.1 Human Bioscience Revision 12.2 Functional evaluation (Outcome measures) 12.3 Urinary incontinence 1 (Electrical stimulation, Biofeedback, Advance manual therapy) 12.4 Urinary incontinence 2 (Pelvic floor stability and trunk muscle co-activation, bladder training)	Practical demonstration
13	Unit 13: Therapy of the pelvic floor 13.1 Human Bioscience Revision 13.2 Post major surgery - treatment 13.3 Physiotherapy management in the convalescence/post-acute phase (counselling/Pelvic muscle floor retraining 13.4 Physiotherapy in Pelvic Floor and the value of the scientific evidence	Practical demonstration and tutorials
14	End semester revision week	End semester revision week
15	End semester exam week	End semester exam week

Course Assessment

Summative Assessment Tasks	Weighting	Relevant Learning Outcomes	Due Date
AT1 Viva* – Midterms	20%	1-4	Week 7
AT2 Objective Structured Clinical Examination - Midterms	30%	1-4	Week 7
AT3 Viva – Finals	20%	1-7	Week 15
AT4 Objective Structured Clinical Examination – Finals	30%	1-7	Week 15
Formative / Hurdle Tasks			
AT5 Professional Conduct	Hurdle	6-7	
AT6 Skills Mastery Checklist	Hurdle	1-5	
AT7 Attendance Record	Hurdle		

*Could be converted to various assessment tasks (e.g. Group Exercise, Skills Assessment, Skills Testing, Reflective Writing, etc.)

Recommended Textbooks and Readings:

1. Porter, S. B. (2013). Tidy's physiotherapy (15th ed.). Edinburgh: Saunders Elsevier.
2. O'Young, B. J., Young, M. A., & Stiens, S. A. (2008). Physical medicine and rehabilitation secrets (3rd ed.). Philadelphia, PA: Mosby Elsevier.
3. Magee, D (2002): Orthopedic physical examination, 4th edition, Saunders Company
4. Fairchild, S. L., O'Shea, R. K., Washington, R. (2017). Principles and Techniques of Patient Care (6th ed.). Saunders.
5. Calais-Germain, B. (2003). The female Pelvis Anatomy and Exercises. Illustrated edition. Eastland Press.
6. Guccione, A. A., Wong, R., Avers, D. (2011). Geriatric Physical Therapy (3rd ed.). Mosby
7. Wilk, K. E., Joyner, D. J. (2013) the use of Aquatics in Orthopaedic conditions and Sports Medicine Rehabilitation and Physical Conditioning (1st ed.). Slack Incorporated
8. Brody, L. T., Geigle, P. R. (2009). Aquatic Exercise for Rehabilitation and Training. Human Kinetics
9. Smith, D. G., Michael, J. W., Bowker, J. H. (2004). Atlas of amputations and limb deficiencies (3rd ed.). American Academy of Orthopaedic Surgeons.
10. Smith, E., Bowker, J. H., Smith, D. G. (2005). Atlas of amputations and limb deficiencies: Surgical, prosthetic and rehabilitation principles (3rd ed.). American

Academy of Orthopaedic Surgeons.

11. Van der El, A. (2009). Orhtopaedic manual Therapy Diagnosis: Spine and Temporomandibular Joint (1st ed.). Jones & Bartlett Learning
12. Stegenga, B. (2012). Management of Temporomandibular Joint degenerative diseases: Biologic basis and treatment outcome. Birkhauser
13. Hultman, C. S., Neumeister, M. W. (2017). Burn Care: reconstruction, rehabilitation and recovery (1st ed.). Elsevier
14. Kamolz. L. (2012) Handbook of Burns. Reconstruction and rehabilitation (1st ed.). Springer

PTY316 – Physiotherapy Research

Course Pre-Requisite: GRD251	Course Co-Requisite: None.
Credit Hours: 3	Semester/AY: 2/Year 3
Contact Hours: 3	Course Coordinator: Mr. Senthilnathan Ramakrishnan
Course Instructors: Abu Dhabi: Ms Sunitha Mysore (sunitha.mysore@fchs.ac.ae) Al Ain: Mr. Senthilnathan Ramakrishnan (senthilnathan.ramakrishnan@fchs.ac.ae)	

Course Description

The lectures and activities of this theoretical course are designed to foster development of the key skills and behaviours for appraising information relevant to clinical practice and learning how to read and interpret literature about physiotherapy practices. In this semester, there will be an opportunity for students to learn how to systematically review literature about the effects of physiotherapy interventions. Students will identify the focus of the systematic review and clarify the methods that will be used to gather, appraise and synthesize the relevant information. The review will be completed in the following semester where the review findings will be assembled and presented and graduate research project. The course will also equip the students to read and interpret qualitative research in physiotherapy, conduct surveys, understand audit process and interpret clinical practice guidelines as applicable to Physiotherapy practice.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Define and differentiate systematic review and review protocol.
2. Calculate and interpret the effect size as applicable to systematic reviews.
3. Describe the elements of a qualitative research and differentiate it with quantitative research in physiotherapy.
4. Define audit and differentiate audit from research.
5. Describe the clinical practice guideline (CPG) and AGREE instrument.
6. Develop a focused question, aims, inclusion and exclusion criteria, search strategies and develop skills in assessing the quality of research papers.
7. Extend reference management skills: save and sort search yield and prepare a sound project proposal for systematic review.
8. Conduct surveys using web-based survey instruments.

Course Outline

Week No.	Topic/Content	Teaching Method
1	Systematic review and review protocol	Lecture
	Review protocol	workshop
2	Developing a focused question, review aims, inclusion and exclusion criteria	Lecture
	The focused question	workshop
3	Searching: where and how to search for useful information	Lecture
	Searching	workshop
4	Reference management	Lecture
	Endnote	workshop
5	Quality assessment	Lecture
	Quality assessment of tests of intervention	workshop
6	Introduction to qualitative research	Lecture
	qualitative research	workshop
7	Mid semester revision	Lecture
8	Mid-semester written and OSCE exam week	
9	Data extraction	Lecture
	Setting up data extraction tables	Workshop
10	Practical workshop in data extraction-1	Workshop
	Practical workshop in data extraction-1	Workshop
11	Missing data calculator	Workshop
	Missing data	Workshop
12	Designing and conducting surveys	Lecture
	Designing and conducting surveys	workshop
13	Auditing patient care	Lecture
	Audit on professional practice	workshop
14	Clinical Practice Guidelines	Lecture
	Quality assessment of clinical practice guidelines- AGREE tool	workshop
15	End semester revision week	
16	End semester written examination	

Course Assessment:

Assessment Method	Weightage	Week Due
Systematic review protocol	40%	Week 12
Research activities folder	20%	Week 1-14
Final Written Examinations	40%	Week 15
Professional Conduct	Hurdle	Week 16
Attendance Record	Hurdle	Week 16
Total	100%	

Recommended Textbooks and Readings

Required

Herbert, R., Jamtvedt, G., Hagen, K. B., Mead, J., & Chalmers, I. (2011). Practical Evidence-Based Physiotherapy-E-Book: Elsevier Health Sciences.

Additional readings

Portney, L. G., & Watkins, M. P. (2009). Foundations of clinical research: applications to practice (Vol. 892): Pearson/Prentice Hall Upper Saddle River, NJ.

THIRD YEAR

TERM 3

PTY353 – Clinical Placement 3

Course Pre-Requisite: PTY315, PTY325, PTY335, PTY316, PTY326, PTY336	Course Co-Requisite: PTY443
Credit Hours: 3	Semester/AY: 3/Year 3
Contact Hours: 18	Course Coordinator: Raghda Elbawab
Course Instructors: Abu Dhabi: Clinical Supervisors Al Ain: Clinical Supervisors	

Course Description

This 8-week summer course is primarily comprised of 18 hours of clinical placement per week with the aim of providing students an opportunity to apply the knowledge and skills on medical and surgical conditions gained during the first and second semester of third year. Students will be under a semi-supervision during this course that also offers continuity of scope to apply the knowledge and skills gained from Clinical Placements 1 and 2.

Course Learning Outcomes

On completion of this course, it is expected that the student will be able to:

1. Demonstrate effective communication and teamwork through collaborative working with interdisciplinary health care professionals.
2. Recognize incidents and show policy awareness of reporting incidents within the clinical environment.
3. Integrate the roles and responsibilities of a physiotherapist in the management of people with complex multi-factorial problems arising from common medical and surgical conditions, neurological and musculoskeletal pathologies.
4. Exemplify the use of particular assessment methods, therapeutic modalities and techniques in the management of patients based on sound clinical reasoning.
5. Document physiotherapy assessment and interventions using various modes of record-keeping tools such as electronic patient records and/or paper-based patient files.
6. Demonstrate a comprehensive awareness of bioethical principles and aspects of its application including autonomy, confidentiality, respect, etc.

Course Outline

Week No.	Topic/Content	Teaching Method
1	Clinical Placement in Medical and Surgical conditions	Observation and shadowing
2	Clinical Placement in Medical and Surgical conditions	Observation and shadowing
3	Clinical Placement in Medical and Surgical conditions	Supervised clinical practice
4	Mid-semester assessment	Formative assessment and feedback on clinical practice
5	Clinical Placement in Medical and Surgical conditions	Minimal supervised clinical practice
6	Clinical Placement in Medical and Surgical conditions	Supervised clinical practice
7	Clinical Placement in Medical and Surgical conditions	Independent clinical practice
8	Final-semester assessment	Summative assessment and feedback on clinical practice

Course Assessment:

Assessment Method	Weightage	Week Due
Reflective Portfolio	Pass/Fail	Week 8
Competency/SkillsMastery Checklist	Pass/Fail	Week 8
Learning needs form	Hurdle	Week 1
Clinical log	Hurdle	Weekly
Total	Pass/Fail	

Recommended Textbooks and Readings:

1. Grace, P. A., & Borley, N. R. (2009). Surgery at a glance (4th ed.). Chichester, UK: Wiley-Blackwell.
2. Porter, S. B. (2013). Tidy's physiotherapy (15th ed.). Edinburgh: Saunders Elsevier.
3. Pryor, J. A. & Prasad, S. A. (Eds.). (2014). Physiotherapy for respiratory and cardiac problems (4th ed.). Edinburgh: Churchill Livingstone/Elsevier.
4. O'Young, B. J., Young, M. A., & Stiens, S. A. (2008). Physical medicine and rehabilitation secrets (3rd ed.). Philadelphia, PA: Mosby Elsevier.
5. Noble, A., Johnson, R., Thomas, A., & Bass, P. (2005). The cardiovascular system: Basic science and clinical conditions. Edinburg: Elsevier Churchill Livingstone.
6. Rothrock, J. C., & McEwen, D. R. (Eds.). (2007). Alexander's care of the patient in surgery (13th ed.). St. Louis, MO: Mosby/Elsevier.
7. Wyka, K. A., Mathews, P. J., & Rutkowski, J. A. (2012). Foundations of respiratory care (2nd ed.). Australia: Delmar Cengage Learning.

CER – College Elective Course

FOURTH YEAR

TERM 1

PTY454 – Clinical Placement 4

Course Pre-Requisite: PTY151, PTY252, PTY353	Course Co-Requisite: PTY454 or PTY455 or PTY456
Credit Hours: 4	Semester/AY: 1 or 2/Year 4
Contact Hours: 12	Course Coordinator: Raghda Elbawab
Course Instructors: Abu Dhabi: Clinical supervisors Al Ain: Clinical supervisors	

Course Description

This 16-week clinical course in the final year is primarily comprised of 12 hours of clinical placement covering the core areas of physiotherapy practice predominantly in the area of advanced musculoskeletal practice. As a full-time placement, this course will run along with one of the other advanced clinical placement courses in the corresponding semester. Students undertake semi-supervised clinical attachments during this course, providing them with the opportunity for physiotherapy practice in clinical settings and apply knowledge and skills developed from the previous year courses.

Course Learning Outcomes

On completion of this course, it is expected that the student will be able to:

1. Recognize and apply the importance of non-verbal communication skills while working within the multi-disciplinary team and with people who have challenges in communication.
2. Demonstrate awareness of vulnerable people and the means to protect and safeguard their rights.
3. Develop awareness of autonomous practice through semi-supervised clinical practice during handling of non-complex cases while recognizing the need for supervision in complex cases of musculoskeletal origin.
4. Justify the use of particular assessment method, therapeutic modalities and techniques over the others in the management of patients based on sound clinical reasoning.
5. Develop awareness of clinical audits and quality management with regard to records-keeping and protocols within the clinical environment.
6. Demonstrate an awareness of cultural sensitivity through immersion in practice within a diverse ethnical background of students, patients, caregivers and health care professionals.

Course Outline

Week No.	Topic/Content	Teaching Method
1	Clinical Placement in Musculoskeletal conditions	Observation and shadowing
2	Clinical Placement in Musculoskeletal conditions	Observation and shadowing
3	Clinical Placement in Musculoskeletal conditions	Supervised clinical practice
4	Clinical Placement in Musculoskeletal conditions	Supervised clinical practice
5	Clinical Placement in Musculoskeletal conditions	Minimal supervised clinical practice
6	Clinical Placement in Musculoskeletal conditions	Minimal supervised clinical practice
7	Clinical Placement in Musculoskeletal conditions	Supervised clinical practice
8	Mid-semester assessment	Formative assessment and feedback on clinical practice
9	Clinical Placement in Musculoskeletal conditions	Supervised clinical practice
10	Clinical Placement in Musculoskeletal conditions	Independent clinical practice
11	Clinical Placement in Musculoskeletal conditions	Independent clinical practice
12	Clinical Placement in Musculoskeletal conditions	Independent clinical practice
13	Clinical Placement in Musculoskeletal conditions	Independent clinical practice
15	Clinical Placement in Musculoskeletal conditions	Independent clinical practice
16	Final-semester assessment	Summative assessment and feedback on clinical practice

Course Assessment

Assessment Method	Weightage	Week Due
Reflective Portfolio	Pass/Fail	Week 8
Competency/SkillsMastery Checklist	Pass/Fail	Week 8
Learning needs form	Hurdle	Week 1
Clinical log	Hurdle	Weekly
Total	Pass/Fail	

Recommended Textbooks and Readings:

1. Kisner, C. & Colby, L.A. (2012). Therapeutic Exercise: Foundations and Techniques (6th ed). Philadelphia: FA Davis.
2. Belanger, A. (2014). Therapeutic Electrophysical Agents: Evidence-Based Practice (3rd ed). Philadelphia: Lippincott Williams & Wilkins.
3. Brukner, P. & Khan, K. (2012). Clinical sports medicine (4th ed). Sydney: McGraw-Hill.

4. Cleland, J. (2005). Orthopaedic clinical examination: An evidence-based approach for physical therapists. Carlstadt, NJ, Icon Learning Systems.
5. McRae, R and Esser, M (2008). Practical Fracture Treatment (5th ed). Edinburgh: Elsevier Churchill Livingstone.
6. Wyka, K. A., Mathews, P. J., & Rutkowski, J. A. (2012). Foundations of respiratory care (2nd ed.). Australia: Delmar Cengage Learning

PTY455 - Clinical Placement 5

Course Pre-Requisite: PTY151, PTY252, PTY353	Course Co-Requisite: PTY454 or PTY455 or PTY456
Credit Hours: 4	Semester/AY: 1 or 2/Year 4
Contact Hours: 12	Course Coordinator: Chithira Nair
Course Instructors: Abu Dhabi: Clinical Supervisors Al Ain: Clinical Supervisors	

Course Description

This 16-week clinical course in the final year is primarily comprised of 12 hours of clinical placement covering the core areas of physiotherapy practice predominantly in the area of advanced neurological physiotherapy practice. As a full-time placement, this course will run along with one of the other advanced clinical placement courses in the corresponding semester. Students undertake semi-supervised clinical attachments during this course, providing them with the opportunity for physiotherapy practice in clinical settings and apply knowledge and skills developed from the previous year courses.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Perform subjective and objective assessment of patients with complex neurological conditions.
2. Apply sound clinical reasoning skills in neurological conditions and make sound clinical decisions by incorporating relevant evidence in practice.
3. Identify the problems list based on the findings of assessment and establish SMART goals for each client.
4. Plan appropriate course of physiotherapy intervention to individual patients with neurological conditions.
5. Monitor the progress of patients using reliable and valid outcome measure and modify treatment approach as necessary.
6. Liaise with members of multi-disciplinary team to optimize the care and facilitate safe and timely discharge of the patient.
7. Demonstrate practice that is ethical and in accordance with relevant legal and regulatory requirements.

Course Outline

Week No.	Topic/Content	Teaching Method
1	Clinical Placement in Neurology	Observation and shadowing
2	Clinical Placement in Neurology	Observation and shadowing
3	Clinical Placement in Neurology	Supervised clinical practice
4	Clinical Placement in Neurology	Supervised clinical practice
5	Clinical Placement in Neurology	Supervised clinical practice
6	Clinical Placement in Neurology	Supervised clinical practice
7	Clinical Placement in Neurology	Minimal supervised clinical practice
8	Mid-semester assessment	Formative assessment and feedback on clinical practice
9	Clinical Placement in Neurology	Minimal supervised clinical practice
10	Clinical Placement in Neurology	Minimal supervised clinical practice
11	Clinical Placement in Neurology	Minimal supervised clinical practice
12	Clinical Placement in Neurology	Independent clinical practice
13	Clinical Placement in Neurology	Independent clinical practice
14	Clinical Placement in Neurology	Independent clinical practice
15	Clinical Placement in Neurology	Independent clinical practice
16	End semester assessment	Summative assessment and feedback of clinical practice.

Course Assessment:

Assessment Method	Weightage	Week Due
Reflective Portfolio	Pass/Fail	Week 16
Competency/SkillsMastery Checklist	Pass/Fail	Week 16
Learning needs form	Hurdle	Week 1
Clinical log	Hurdle	Weekly
Total	Pass/Fail	

Recommended Textbooks and Readings:

1. Hill, K, Denisenko, S, Miller, K, Clements, T, Batchelor, F (2010) '*Clinical Outcome Measurement in Adult Neurological Physiotherapy*' 4th Ed. Melbourne, Australian Physiotherapy Association.
2. Carr, J and Shepherd, R (2003) *Stroke rehabilitation: guidelines for exercise and training to optimize motor skill*. Butterworth Heinemann.
3. Morgan, P., Bernhardt, J., Campagna, E., & Gilmore, S. (2011). *Physiotherapy in acute neurological practice: An introductory guide for the clinician*. Melbourne, Australian Physiotherapy Association.
4. Carr, J., & Shepherd, R. (2010). *Neurological rehabilitation: optimizing motor performance* (2nd ed), Churchill Livingstone Elsevier.
5. Hill, K., Denisenko, S., Miller, K., Clements, T., Batchelor, F. (2010). *Clinical Outcome Measurement in Adult Neurological Physiotherapy* (4th Ed). Melbourne, Australian Physiotherapy Association.
6. Lennon, S., & Ramdharry, G., & Verheyden, G. (2018). *Pocket book of Neurological Physiotherapy* (2nd Ed). Elsevier.
7. Martin, S., & Kessler. (2015) *Neurological Interventions for Physical Therapy* (3rd Ed). Elsevier.
8. Umphred, D. A., Lazaro, R. T., Roller, M. L., & Burton, G. U. (2012). *Umphred's Neurological Rehabilitation* (6th Edition), Mosby, Elsevier.

PTY443 – Integrated Evidenced Based Practice 3

Course Pre-Requisite: PTY316, PTY326, PTY336, PTY353	Course Co-Requisite: Any 2 clinical placement courses offered in SEM 1/Year 4
Credit Hours: 2	Semester/AY: 1/Year 4
Contact Hours: 4	Course Coordinator: Mrs. Ana Anjos
Course Instructors: Abu Dhabi: Mrs. Ana Anjos (ana.anjos@fchs.ac.ae) Al Ain: Dr. Balkhis Banu (Balkhis.Shaik@fchs.ac.ae)	

Course Description

This course intends to serve as a capstone for Integrated Evidence Based Practice 1 and 2, the students will continue to develop research literacy skills and integrated knowledge into specialized areas of physiotherapy practice. The course will build upon the novice/lower level knowledge and skills that characterize the earlier years of the Bachelor of Physiotherapy curriculum. Case-based learning (CBL) scenarios remain the cornerstone for integration.

These skills developed will form a basis to address realistic narrative scenarios of clients in clinical situations focusing on case-based learning (CBL) particularly in medical and surgical condition 1 and 2. The aim with each scenario is to understand the condition, reflect upon, and consolidate content of the week through identifying learning issues arising from the case. The learning approach is student-centred that provides opportunity to learn interactively with their peers in a small group setting.

This course will focus on further developing students' communication skills with clients with impairment, cultural and linguistic diversity and end of life issues, their careers and other health care professionals. It will also continue to support the development of clinical effectiveness and inter-professional functioning through reflective practice and skills in teamwork. Additionally, students will integrate elements from all courses in this semester to develop clinical competencies integral to physiotherapy practice by incorporating best available research evidence with clinical reasoning skills.

The lectures and activities of this course are designed to foster development of the key skills and behaviours for research such as database searching, developing research questions, and start appraising evidences related to physiotherapy scenarios.

Course Learning Outcomes

On completion of this course it is expected that the student will be able to:

1. Utilize the importance of research knowledge and skills in the practice of physiotherapy.
2. Detail the role of the physiotherapist in advanced practice cases while recognizing the role and contributions of other members of health care team.
3. Develop a range of tertiary level study skills including effective use of the library and information technology in producing academic work.

4. Demonstrate active and mutual learning with peers and develop oral presentation skills for case presentation.
5. Use learning management systems in keeping a portfolio of learning activities and Reference and cite using standardized and acceptable methods.
6. Modify communication in response to the social, cultural, cognitive and emotional state of individual people, clients and families and explain the importance of good written and verbal communication in achieving continuity of care with integration of principles of counselling.

Course Outline

Week No.	Topic/Content	Teaching Method
1	Unit 1:	
	Case 1 - Obesity	Case Based Learning with small group tutorials
2	Unit 2:	
	CBL 2 - Diabetes	Case Based Learning with small group tutorials
3	Unit 3:	
	CBL 3 – Heart failure/Pulmonary Edema	Case Based Learning with small group tutorials
4	Unit 4:	
	CBL 4 – Chronic Pain	Case Based Learning with small group tutorials
5	Unit 5:	
	CBL 5 - Lymphedema	Case Based Learning with small group tutorials
6	Unit 6:	
	CBL 6 – Acute Myocardial Infarct	Case Based Learning with small group tutorials
7	Mid-semester revision week	
8	Mid-Term Exams	
9	Unit 9: Oncology	
	CBL 9 - Cystic Fibrosis	Case Based Learning with small group tutorials
10	Unit 10: Rheumatic diseases	
	CBL 10 - ICU	Case Based Learning with small group tutorials
	Unit 11: MSK Surgical Interventions	

11	CBL 11 - Rheumatology	Case Based Learning with small group tutorials
12	Unit 12: MSK Surgical Interventions	
	CBL 12 - Pneumothorax	Case Based Learning with small group tutorials
13	Unit 13: Surgical Interventions	
	CBL 13 – Women's health	Case Based Learning with small group tutorials
14	Final Revision week	
15	Final Exams	

Course Assessment

Assessment Method	Weightage	Week Due
CBL Learning and Performance Summative assessment of students' performance in CBL throughout semester	30%	Weekly
Mid-semester written examination	30%	Week 8
End semester written examination	40%	Week 15
Total	100%	

Recommended Textbooks and Readings:

1. Grace, P. A., & Borley, N. R. (2009). Surgery at a glance (4th ed.). Chichester, UK: Wiley-Blackwell.
2. Porter, S. B. (2013). Tidy's physiotherapy (15th ed.). Edinburgh: Saunders Elsevier.
3. Pryor, J. A. & Prasad, S. A. (Eds.). (2014). Physiotherapy for respiratory and cardiac problems (4th ed.). Edinburgh: Churchill Livingstone/Elsevier.
4. O'Young, B. J., Young, M. A., & Stiens, S. A. (2008). Physical medicine and rehabilitation secrets (3rd ed.). Philadelphia, PA: Mosby Elsevier.
5. Rothrock, J. C., & McEwen, D. R. (Eds.). (2007). Alexander's care of the patient in surgery (13th ed.). St. Louis, MO: Mosby/Elsevier.
6. Wyka, K. A., Mathews, P. J., & Rutkowski, J. A. (2012). Foundations of respiratory care (2nd ed.). Australia: Delmar Cengage Learning.
7. Cheville AL. (2016) Adjunctive Rehabilitation Approaches to Oncology, An Issue of Physical Medicine and Rehabilitation Clinics of North America, E-Book. Elsevier Health Sciences.
8. Michael D. Stubblefield (2018). Cancer rehabilitation – Principles and Practice (2nd e.). Springer Publishing Company.
9. O'Young, B. J., Young, M. A., & Stiens, S. A. (2008). Physical medicine and rehabilitation secrets (3rd ed.). Philadelphia, PA: Mosby Elsevier.
10. Peresic, W. (2007). The Orthopedic Workbook for Physical therapy. Jones and Bartlett Publishers.
11. Susan O' Sullivan. F.A. Davis (2007) Physical rehabilitation 5th edition.
12. Magee, D (2002): Orthopedic physical examination (4th edition). Saunders Company

13. Be, K. Berghmans, B., Merkved, S., Van Kampen, M. (2014). Evidence-Based Physical Therapy for the Pelvic Floor – Bridging science and clinical practice (2nd ed.). Elsevier Churchill Livingstone.
14. Glassey, N. (2004). Physiotherapy for Burns and Plastic. John Wiley & Sons.
15. Main, E., Denehy, L. (2016). Cardiorespiratory Physiotherapy: Adults and Paediatrics. Elsevier
16. Solomen, S., Aaron, P. (2017) Techniques in cardiopulmonary Physiotherapy. Peepee publishers

GRD301 – Innovation and Entrepreneurship

Course Pre-Requisite: GRD261	Course Co-Requisite: None
Credit Hours: 3	Semester/AY: 1/Year 4
Contact Hours: 3	Course Coordinator: Dr. Amro Widaa
Course Instructors: Abu Dhabi: Dr. Amro Widaa (amro.widaa@fchs.ac.ae) Al Ain: Dr. Amro Widaa (amro.widaa@fchs.ac.ae)	

Course Description

Recent advances in medical research, basic sciences, agricultural and nutritional sciences, information technology, communication and transportation have created a wealth of new information that can be used to improve human health outcomes. The challenge for society now is to learn how to use all this information and propose solutions to improve human health. Many changes and improvements come from creativity, innovation and entrepreneurship.

Through real world examples and research from experts in the field, students will learn how to incorporate design thinking, entrepreneurship, and growth and leadership into the UAE health system as well as their own personal and professional development.

This course is designed to provide students with essential skills needed to be competitive in today's growing economy. It will challenge students to innovate, overcome obstacles, and grow rapidly; with the goal of recognizing opportunities to improve health care; and creating a business that will provide innovative solutions that can have a positive impact on the health of the UAE population and the gulf region. Overall this course will look into the processes of innovation from discovery to delivery, and to identify suitable pathways in order to bring students' ideas to fruition.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Describe the key concepts of entrepreneurship and innovation in health.
2. Evaluate potential and existing solutions to problems in human health from an entrepreneurial and innovative perspective.
3. Differentiate between ideas and viable opportunities.
4. Develop an innovation plan.
5. Analyse issues related to start-ups.
6. Evaluate cultural and ethical issues in human health entrepreneurship.
7. Demonstrate an understanding of oral and written communication, interpersonal and leadership skills.

Course Outline

Week No.	Topic/Content	Teaching Method
1	Introduction, syllabus and course expectation. Theories and models of health care improvements.	Lecture
2	Entrepreneurship, innovation and design thinking. Understand the difference between an innovative idea and an opportunity in Healthcare.	Lecture, use innovation workbook, research and class work submission
3	Patient safety regulations and ethics regulations How do you prioritize needs in healthcare? Quiz 1	Lecture
4	Designing an Innovation <ul style="list-style-type: none"> • Successful innovations • Case studies of successful and failed innovations Introduction to project 1	Group discussion
5	Planning, organizing, and market analysis Interprofessional collaboration and diversity planning	Lecture, group work
6	Starting your business <ul style="list-style-type: none"> • Forms of ownership Financing for Healthcare providers <ul style="list-style-type: none"> • How to raise capital? • Pitching and presenting • How to manage the budget? 	Lecture, group work and students' presentations
7	Developing marketing strategies Quiz 2	Lecture, group work
8	Tools for problem solving Project 1 submission	
9	How Promotion and information technology can strengthen new business plan Introduction to Final Project	Lecture, group work
10	Intellectual Property	Lecture, class assignment, group work.
11	Managing HR and employee relationship Managing Global Creativity Quiz 3	Lecture, Class exercises
12	Great Creative leaders and how they inspire others	Lecture, Class exercises

	<ul style="list-style-type: none">Types of leadership <p>Presentation skills</p>	
13	Final Project submission and presentation	Each group of students will submit a written Innovation Plan, details of which will be provided during the semester. The Plan will integrate learning from the semester, scores from self-assessment and will address areas of leadership, team contribution and personal development. Teams will present the project to their peers and will be evaluated by the peers accordingly
14		
15	Final Exam	

Course Assessment

Assessment Method	Weightage	Week Due
Work in Class	10%	All weeks
Quizzes	15%	3,7,11
Group Project 1	15%	8
Final Project Presentation	30%	Weeks 13-14
Final Exam	30%	Week 15
Total	100%	

Required Textbooks and Recommended Readings

The course will use several resources that are listed below:

1. *Innovation and Entrepreneurship*. Peter Drucker, 2014(Current Edition): ISBN: 1317601351, 9781317601357.
2. *Innovation the Cleveland Clinic Way: Transforming Healthcare by Putting Ideas to Work*. Thomas J. Graham, 2016. McGraw-Hill, ISBN: 9780071845342
3. *Small Business Management An Entrepreneur's Guidebook*, 7th ed. Irwin Byrd Megginson. McGraw-Hill, ISBN: 978-0-07-802909-7
4. *Technology Ventures: From Idea to Enterprise*. Byers, Dorf, and Nelson. 4th Edition. McGraw Hill Education. Copyright 2015. ISBN 978-1259252754.

MEC – Major Elective Course

As described in pages 112-119.

FOURTH YEAR

TERM 2

PTY456 - Clinical Placement 6

Course Pre-Requisite: PTY151, PTY252, PTY353	Course Co-Requisite: PTY454 or PTY455 or PTY456
Credit Hours: 4	Semester/AY: 1 or 2/Year 4
Contact Hours: 12	Course Coordinator: Mariam Eletr
Course Instructors: Abu Dhabi: Clinical Supervisors Al Ain: Clinical Supervisors	

Course Description

This 16-week clinical course in the final year is primarily comprised of 12 hours of clinical placement covering the core areas of physiotherapy practice predominantly in the area of paediatric physiotherapy practice. As a full-time placement, this course will run along with one of the other advanced clinical placement courses in the corresponding semester. Students undertake semi-supervised clinical attachments during this course, providing them with the opportunity for physiotherapy practice in clinical settings and apply knowledge and skills developed from the previous year courses.

Course Learning Outcomes

On completion of this course, it is expected that the student will be able to:

1. Develop the communication skills required for resolving conflicts that may arise while working within a multi-disciplinary clinical setting.
2. Ensure safety of self and patients during all aspects of clinical encounters including lone working circumstances.
3. Adapt to a semi-autonomous clinical practice during handling of non-complex cases while recognizing the need for supervision in complex cases that are predominantly of paediatric population.
4. Utilize relevant outcome measures in the management of paediatric patients in order to monitor and progress treatment plan.
5. Demonstrate sound clinical reasoning in goals setting and treatment planning for clients who require long-term care.
6. Show empathy towards patients, carers and family members while recognizing the burden of disease.

Course Outline

Week No.	Topic (s)/Content(s)	Teaching Method(s)
1	Clinical Placement in Paediatric physiotherapy.	Observation and shadowing

2	Clinical Placement in Paediatric physiotherapy.	Observation and shadowing
3	Clinical Placement in Paediatric physiotherapy.	Supervised clinical practice
4	Clinical Placement in Paediatric physiotherapy.	Supervised clinical practice
5	Clinical Placement in Paediatric physiotherapy.	Supervised clinical practice
6	Clinical Placement in Paediatric physiotherapy.	Supervised clinical practice
7	Clinical Placement in Paediatric physiotherapy.	Minimal supervised clinical practice
8	Mid-semester assessment	Formative assessment and feedback on clinical practice
9	Clinical Placement in Paediatric physiotherapy.	Minimal supervised clinical practice
10	Clinical Placement in Paediatric physiotherapy.	Minimal supervised clinical practice
11	Clinical Placement in Paediatric physiotherapy.	Minimal supervised clinical practice
12	Clinical Placement in Paediatric physiotherapy.	Independent clinical practice
13	Clinical Placement in Paediatric physiotherapy.	Independent clinical practice
14	Clinical Placement in Paediatric physiotherapy.	Independent clinical practice
15	Clinical Placement in Paediatric physiotherapy.	Independent clinical practice
16	End semester assessment	Summative assessment and feedback of clinical practice.

Course Assessment

Assessment Method	Weightage	Week Due
Reflective Portfolio	Pass/Fail	Week 16
Competency/SkillsMastery Checklist	Pass/Fail	Week 16
Learning needs form	Hurdle	Week 1
Clinical log	Hurdle	Weekly
Total	Pass/Fail	

Recommended Textbooks and Readings:

1. Campbell S, Vander Linden D & Palisano R (2006) Physical therapy for children. Missouri, Elsevier.

2. Levitt, S., & Addison, A. (2010). Treatment of cerebral palsy and motor delay (5th ed.). Oxford: John Wiley & Sons.
3. Tecklin, J. (2008). Pediatric physical therapy (4th ed.). Baltimore: Lippincott Williams & Wilkins.
4. Carr, J & Shepherd, R. (2010). Neurological rehabilitation: optimizing motor performance. (2nd ed) Churchill Livingstone Elsevier.
5. Hill, K, Denisenko, S, Miller, K, Clements, T & Batchelor, F (2010) 'Clinical Outcome Measurement in Adult Neurological Physiotherapy' 4th Ed. Melbourne, Australian Physiotherapy Association.
6. Lennon S & Stokes M. (2009) Pocket book of Neurological Physiotherapy. Churchill Livingstone.

PTY457 - Clinical Placement 7

Course Pre-Requisite: PTY151, PTY252, PTY353	Course Co-Requisite: PTY454 or PTY455 or PTY456
Credit Hours: 4	Semester/AY: 1 or 2/Year 4
Contact Hours: 12	Course Coordinator: Mr. Senthilnathan Ramakrishnan
Course Instructors: Abu Dhabi: Clinical Supervisors Al Ain: Clinical Supervisors	

Course Description

This 16-week clinical course in the final year of the physiotherapy program is primarily comprised of 12 hours of clinical placement per week predominantly in the areas of medical and surgical specialties including cardiovascular and respiratory conditions. Students undertake clinical attachments during this course, providing them with the opportunity for physiotherapy practice in acute clinical settings and apply knowledge and skills developed from the previous year courses.

Course Learning Outcomes

On completion of this course, it is expected that the student will be able to:

1. Perform subjective and objective assessment of patients with complex cardiovascular, respiratory and general medical-surgical conditions.
2. Apply sound clinical reasoning skills in cardio-respiratory and general medical and surgical conditions and make sound clinical decisions by incorporating relevant evidence in practice.
3. Identify the problems list based on the findings of assessment and establish SMART goals for each client.
4. Plan appropriate course of physiotherapy intervention to individual patients with cardiovascular, respiratory and, medical and surgical conditions.
5. Implement cardio-respiratory physiotherapy techniques to reduce the work of breathing, aid the removal of secretions, maximize the lung volume and capacities, and improve the exercise tolerance.
6. Monitor the progress of patients using reliable and valid outcome measure and modify treatment approach as necessary.
7. Liaise with members of multi-disciplinary team to optimize the care and facilitate safe and timely discharge of the patient.

Course Outline:

Week No.	Topic/Content	Teaching Method
1	Clinical Placement in Medical and Surgical specialty including cardiovascular and respiratory conditions	Observation and shadowing
2	Clinical Placement in Medical and Surgical specialty including cardiovascular and respiratory conditions	Observation and shadowing
3	Clinical Placement in Medical and Surgical specialty including cardiovascular and respiratory conditions	Supervised clinical practice
4	Clinical Placement in Medical and Surgical specialty including cardiovascular and respiratory conditions	Supervised clinical practice
5	Clinical Placement in Medical and Surgical specialty including cardiovascular and respiratory conditions	Supervised clinical practice
6	Clinical Placement in Medical and Surgical specialty including cardiovascular and respiratory conditions	Supervised clinical practice
7	Clinical Placement in Medical and Surgical specialty including cardiovascular and respiratory conditions	Minimal supervised clinical practice
8	Mid-semester assessment	Formative assessment and feedback on clinical practice
9	Clinical Placement in Medical and Surgical specialty including cardiovascular and respiratory conditions	Minimal supervised clinical practice
10	Clinical Placement in Medical and Surgical specialty including cardiovascular and respiratory conditions	Minimal supervised clinical practice
11	Clinical Placement in Medical and Surgical specialty including cardiovascular and respiratory conditions	Minimal supervised clinical practice
12	Clinical Placement in Medical and Surgical specialty including cardiovascular and respiratory conditions	Independent clinical practice
13	Clinical Placement in Medical and Surgical specialty including cardiovascular and respiratory conditions	Independent clinical practice
14	Clinical Placement in Medical and Surgical specialty including cardiovascular and respiratory conditions	Independent clinical practice
15	Clinical Placement in Medical and Surgical specialty including cardiovascular and respiratory conditions	Independent clinical practice
16	End semester assessment	Summative assessment and feedback of clinical practice.

Course Assessment:

Assessment Method	Weightage	Week Due
Reflective Portfolio	Pass/Fail	Week 16
Competency/SkillsMastery Checklist	Pass/Fail	Week 16
Learning needs form	Hurdle	Week 1
Clinical log	Hurdle	Weekly
Total	Pass/Fail	

Recommended Textbooks and Readings:

1. Grace, P. A., & Borley, N. R. (2009). Surgery at a glance (4th ed.). Chichester, UK: Wiley-Blackwell.
2. Porter, S. B. (2013). Tidy's physiotherapy (15th ed.). Edinburgh: Saunders Elsevier.
3. Pryor, J. A. & Prasad, S. A. (Eds.). (2014). Physiotherapy for respiratory and cardiac problems (4th ed.). Edinburgh: Churchill Livingstone/Elsevier.
4. O'Young, B. J., Young, M. A., & Stiens, S. A. (2008). Physical medicine and rehabilitation secrets (3rd ed.). Philadelphia, PA: Mosby Elsevier.
5. Noble, A., Johnson, R., Thomas, A., & Bass, P. (2005). The cardiovascular system: Basic science and clinical conditions. Edinburg: Elsevier Churchill Livingstone.
6. Rothrock, J. C., & McEwen, D. R. (Eds.). (2007). Alexander's care of the patient in surgery (13th ed.). St. Louis, MO: Mosby/Elsevier.
7. Wyka, K. A., Mathews, P. J., & Rutkowski, J. A. (2012). Foundations of respiratory care (2nd ed.). Australia: Delmar Cengage Learning.

PTY447 - Research Project

Course Pre-Requisite: GRD251, PTY346	Course Co-Requisite: None
Credit Hours: 3	Semester/AY: 2/4
Contact Hours: 3	Course Coordinator: Ms Sunitha Mysore
Course Instructors: Abu Dhabi: Ms Sunitha Mysore (sunitha.mysore@fchs.ac.ae) Al Ain: Mr Senthilnathan Ramakrishnan (senthilnathan.ramakrishnan@fchs.ac.ae)	

Course Description

The lectures and activities related to this research project course are designed to foster development of the key skills and behaviours for appraising information relevant to clinical practice and learning how to read and interpret about physiotherapy practices. During this semester, students will complete the graduate research project (systematic review) that they began in previous modules. This task will allow students to gain an appreciation of the challenges and advantages associated with synthesizing information in a systematic way, and why systematic reviews are a great support in clinical practice. It will also benefit students by teaching them how to identify and seek out best quality information to inform their clinical decision-making process. Additionally, students will gain skills that are fundamental to good project management by conducting this systematic review. Students will also learn more about statistics in this course, and how this will help them to read the methods and results sections of papers that have been included in their systematic reviews. Weekly tasks will also help students to gain additional research skills.

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Define outcome measure validity and differentiate from reliability.
2. Assess the accuracy of diagnostic tests and define sensitivity, specificity and likelihood ratios.
3. Define, demonstrate and interpret Mann-Whitney, Wilcoxon and Chi-square tests, Analysis of Variance (ANOVA), Pearson's correlation (r), Spearman correlation, point-biserial, phi-coefficient and test retest reliability.
4. Demonstrate computation and interpretation of meta-analysis using RevMan.
5. Use nomograms and likelihood ratios.
6. Differentiate parametric and non-parametric tests.
7. Calculate and interpret total variability, between treatments variability and within treatment variability, and interpret ANOVA notation and the results of an ANOVA.
8. Develop high quality systematic reviews.

Course Outline

Week No.	Topic/Content	Teaching Method
1	Interpreting and reporting review findings: Review checklist	Lecture
	Systematic review checklist	workshop
2	Introduction to Meta-analysis	Lecture
	RevMan	workshop
3	Correlation and Regression	Lecture
	Correlation	workshop
4	Reliability studies	Lecture
	Measurement error	workshop
5	Outcome measure validity	Lecture
	Reliability and validity	workshop
6	Interpreting diagnostic test results	Lecture
	Diagnostic tests	workshop
7	Mid semester revision	Lecture
8	Mid-semester written and OSCE exam week	
9	Statistical tests for ordinal data: Mann-Whitney and Wilcoxon	Lecture
	Tests for ordinal data	Workshop
10	Chi Square	Lecture
	Chi-square tests	Workshop
11	ANOVA (Analysis of variance)	Lecture
	ANOVA	Workshop
12	Repeated measures ANOVA	Lecture
	Repeated measures ANOVA	workshop
13	Two factor ANOVA	Lecture
	Two way ANOVA	workshop
14	Dichotomous outcomes	Lecture
	Interpreting dichotomous outcomes	workshop
15	End semester revision week	
16	End semester written examination	

Course Assessment

Assessment Method	Weightage	Week Due
Graduate research project (Systematic review)	40%	Week 12
Research activities folder	20%	Week 1-14
Final Written Examinations	40%	Week 15
Professional Conduct	Hurdle	Week 16
Attendance Record	Hurdle	Week 16
Total	100%	

Recommended Textbooks and Readings

Required

Herbert, R., Jamtvedt, G., Hagen, K. B., Mead, J., & Chalmers, I. (2011). Practical Evidence-Based Physiotherapy-E-Book: Elsevier Health Sciences.

Additional readings

Portney, L. G., & Watkins, M. P. (2009). Foundations of clinical research: applications to practice (Vol. 892): Pearson/Prentice Hall Upper Saddle River, NJ.

PTY437 - Transition to Health Practice

Course Pre-Requisite: Any 2 clinical placement courses offered in SEM 1/Year 4	Course Co-Requisite: None
Credit Hours: 3	Semester/AY: 2/4
Contact Hours: 3	Course Coordinator: Dr Pedro Borrego
Course Instructors: Abu Dhabi: Dr Pedro Borrego (pedro.borrego@fchs.ac.ae) Al Ain: Dr Balkhis Banu (Balkhis.banu@fchs.ac.ae)	

Course Description

The objectives in this course are designed to build upon the skills and competencies that characterize the final of the BSc in Physiotherapy Program. The course objectives reflect higher order knowledge and skills appropriate to more complex teaching input and an extended clinical attachment

Course Learning Outcomes

Upon completion of the course, students will be able to:

1. Contribute effectively to the planning of physiotherapy services and resources
2. Communicate effectively in all formats and utilize augments when required
3. Comply with standards of professional behavior and ethics
4. Exhibit knowledge and proficiency to prepare for professional registration and entry to the workforce
5. Take responsibility for ongoing learning; develop roles and skills required for mentoring
6. Participate effectively in both professional and interprofessional activities

Course Outline

Week No.	Topic	Content	Reference
1	Registration week	Registration week	

2	Transition to Health Practice	<ul style="list-style-type: none"> ➤ Career development: debriefing. ➤ Preparing the CV. ➤ Physiotherapy prospects. ➤ Job searching. ➤ The interview. 	Lecture
3	Transition to Health Practice	<ul style="list-style-type: none"> ➤ Marketing workshop ➤ Healthcare Law/Ethics in UAE ➤ CBL – Ethical issue in clinical environment 	Lecture
4	Transition to Health Practice	<ul style="list-style-type: none"> ➤ Preparing for licensing exams. 	Lecture
5	Transition to Health Practice	<ul style="list-style-type: none"> ➤ FCHS: Your personal experience. ➤ HAAD: Physiotherapy in public services. ➤ Physiotherapy in private sector. 	Workshop
6	Transition to Health Practice	<ul style="list-style-type: none"> ➤ Self-study 	Self study
7	Transition to Health Practice	<ul style="list-style-type: none"> ➤ Written assignment ➤ Reflective Oral Presentation 	

Course Assessment

Assessment Method	Weightage	Week Due
Case Study Written Submission	50%	Week 7
Reflective thinking. Oral presentation and portfolio	50%	Week 8
Professional Conduct	Hurdle	Week 8
Attendance Record	Hurdle	Week 8
Total	100%	

Recommended Textbooks and Readings

Books

1. Higgs J, Jones MA, Loftus S, Christensen N. Clinical reasoning in the health professions. Elsevier Health Sciences; 2018 Oct 15.
2. Nelson DL, Burke RJ. Gender, work stress, and health. 2018 Apr 19.
3. Finkler SA, Smith DL, Calabrese TD. Financial management for public, health, and not-for-profit organizations. CQ Press; 2019 Jan 15.
4. Ward DM, Calabrese T. Accounting fundamentals for health care management. Jones & Bartlett Learning; 2018 Feb 5.
5. Lee BB, Rockson SG, Bergan J, editors. Lymphedema: a concise compendium of theory and practice. Springer; 2018 Jan 10.
6. Dryden T, Moyer CA. Massage therapy: Integrating research and practice. Human Kinetics; 2018 Nov 15.
7. Gilligan C, Lowe R. Marketing and Healthcare Organizations. CRC Press; 2018 Apr 19.
8. Reiche BS, Harzing AW, Tenzer H, editors. International human resource management. SAGE Publications Limited; 2018 Oct 15.
9. Challis D, Chesterman J, Lockett R, Stewart K. Care management in social and primary health care: the Gateshead Community Care Scheme. Routledge; 2018 Oct 31.
10. Stewart B, Nicholson M, Smith AC, Hoyer R. Sport management: principles and applications. Routledge; 2018 Jan 16

Additional reading:

1. Wright A, Moss P, Dennis DM, Harrold M, Levy S, Furness AL, Reubenson A. The influence of a full-time, immersive simulation-based clinical placement on physiotherapy student confidence during the transition to clinical practice. *Advances in Simulation*. 2018 Dec;3(1):3
2. Castellani C, Duff AJ, Bell SC, Heijerman HG, Munck A, Ratjen F, Sermet-Gaudelus I, Southern KW, Barben J, Flume PA, Hodková P. ECFS best practice guidelines: the 2018 revision. *Journal of Cystic Fibrosis*. 2018 Mar 3.
3. Hall A, Richmond H, Copsey B, Hansen Z, Williamson E, Jones G, Fordham B, Cooper Z, Lamb S. Physiotherapist-delivered cognitive-behavioural interventions are effective for low back pain, but can they be replicated in clinical practice? A systematic review. *Disability and rehabilitation*. 2018 Jan 2;40(1):1-9.
4. Yamato TP, Arora M, Stevens ML, Elkins MR, Moseley AM. Quality, language, subdiscipline and promotion were associated with article accesses on Physiotherapy Evidence Database (PEDro). *physiotherapy*. 2018 Mar 1;104(1):122-8.
5. Lowe A, Gee M, McLean S, Littlewood C, Lindsay C, Everett S. Physical activity promotion in physiotherapy practice: a systematic scoping review of a decade of literature. *Br J Sports Med*. 2018 Jan 1;52(2):122-7.
6. Sennehed CP, Holmberg S, Axén I, Stigmar K, Forsbrand M, Petersson IF, Grahn B. Early workplace dialogue in physiotherapy practice improved work ability at 1-year follow-up—WorkUp, a randomised controlled trial in primary care. *Pain*. 2018 Aug;159(8):1456.
7. Sehl J, O'Doherty J, O'Connor R, O'Sullivan B, O'Regan A. Adherence to COPD management guidelines in general practice? A review of the literature. *Irish Journal of Medical Science (1971-)*. 2018 May 1;187(2):403-7.
8. Dueñas M, Salazar A, Sánchez M, De Sola H, Ojeda B, Failde I. Relationship Between Using Clinical Practice Guidelines for Pain Treatment and Physicians'

- Training and Attitudes Toward Patients and the Effects on Patient Care. *Pain Practice*. 2018 Jan;18(1):38-47.
9. Pratte G, Hurtubise K, Rivard L, Berbari J, Camden C. Developing a web platform to support a community of practice: a mixed methods study in pediatric physiotherapy. *Journal of Continuing Education in the Health Professions*. 2018 Jan 1;38(1):19-24.
 10. Kurunsaari M, Tynjälä P, Piirainen A. Graduating Physiotherapy Students' Conceptions of their own Competence. *Vocations and Learning*. 2018 Apr 1;11(1):1-8.
 11. Stevens A, Köke A, van der Weijden T, Beurskens A. The development of a patient-specific method for physiotherapy goal setting: a user-centered design. *Disability and rehabilitation*. 2018 Aug 14;40(17):2048-55.
 12. Jonsson M, Hurtig-Wennlöf A, Ahlsson A, Vidlund M, Cao Y, Westerdahl E. In-hospital physiotherapy improves physical activity level after lung cancer surgery: a randomized controlled trial. *Physiotherapy*. 2018 Nov 20.
 13. Bernhardsson S, Samsson KS, Johansson K, Öberg B, Larsson ME. A preference for dialogue: exploring the influence of patient preferences on clinical decision making and treatment in primary care physiotherapy. *European Journal of Physiotherapy*. 2018 Oct 6:1-8.
 14. Chang AT, Gavaghan B, O'Leary S, McBride LJ, Raymer M. Do patients discharged from advanced practice physiotherapy-led clinics re-present to specialist medical services?. *Australian Health Review*. 2018 Jun 26;42(3):334-9.
 15. Bolton J, Andrews S. 'I learned more than from any lecture'—Indigenous place and space for teaching Indigenous health to physiotherapy students. *Physical Therapy Reviews*. 2018 Jan 2;23(1):35-9.
 16. Postolache G, Oliveira R, Moreira I, Postolache O. Why, What and When in-Home Physiotherapy?. In *Health Care Delivery and Clinical Science: Concepts, Methodologies, Tools, and Applications 2018* (pp. 884-908). IGI Global.
 17. Douglas-Moore JL, Goddard J. Current best practice in the management of cystitis and pelvic pain. *Therapeutic advances in urology*. 2018 Jan;10(1):17-22.
 18. Strudwick K, McPhee M, Bell A, Martin-Khan M, Russell T. Best practice management of low back pain in the emergency department (part 1 of the musculoskeletal injuries rapid review series). *Emergency Medicine Australasia*. 2018 Feb;30(1):18-35.
 19. Hings RF, Wagstaff CR, Thelwell RC, Gilmore S, Anderson V. Emotional labor and professional practice in sports medicine and science. *Scandinavian journal of medicine & science in sports*. 2018 Feb;28(2):704-16.

Assessments Tasks Descriptions

Assessment task	General Description	Adopted in
Lab based examination (image or practical exam)	Students will be presented with a series of images (image exam) or skills related questions (eg: multiple-choice questions) to be answered within a specific time limit. The students navigate through different stations to complete the examination.	Human Biosciences 1 – MSK Human Biosciences 2 – MSK Integrated Evidence-based Practice 1 Human Biosciences 3 – Neurology and Pediatrics Human Biosciences 4 – Neurology and Pediatrics Integrated Evidence-based Practice 3 Integrated Evidence-based Practice 4
Glossary Quiz	This assessment item could be utilized both as formative and summative assessment device that is meant to assess students' knowledge of the terminology and language related to the core concepts of this course. Students could be asked to complete these glossary quizzes frequently throughout the semester or one-off assessment by the end of semester.	Human Biosciences 1 – MSK Research Methodology
Written examination	The written exam intends to measure the learning outcomes of the course as well as to evaluate the fundamental knowledge in health science and the application of theoretical concepts. The exam items are assorted to determine the amount of knowledge that the students mastered and retained at all cognitive levels of Bloom's Taxonomy. The exam will include a combination of both objective and subjective questions.	Physiotherapy Theory 1 – MSK Human Biosciences 2 – MSK Physiotherapy Theory 2 – MSK Physiotherapy Theory 3 – Neurology and Pediatrics Human Biosciences 4 – Neurology and Pediatrics Physiotherapy Theory 4 – Neurology and Pediatrics Integrated Evidence-based Practice 2 Physiotherapy Theory 5 – Medical and Surgical Conditions Research Methodology Physiotherapy Theory 6 – Medical and Surgical Conditions Physiotherapy Research Transition to Health Practice
Documentation (Eg: SOAP notes or POMR)	Writing and preparing documentation is one of the crucial skills that the students need for their clinical placement. This assessment task prepares the students for clinical practice. Students are taught and assessed on their ability to systematically structure and comprehensively present their assessment and treatment in a written format. A rubric specifically designed to assess the task will be used to assess the work.	Physiotherapy Theory 1 – MSK Physiotherapy Theory 2 – MSK
Objective structured clinical examination	The OSCE is designed to assess the knowledge and applied skills of the student. Within a standardized clinical examination environment, the OSCE may take the form of a combination of oral, written and manual tasks. All material presented in a course (including Practical Manual and all	Physiotherapy Practical 1 – MSK Physiotherapy Practical 2 – MSK Physiotherapy Practical 3 – Neurology and Pediatrics Physiotherapy Practical 4 – Neurology and Pediatrics

	<p>components of the Skills Mastery Checklist) is considered examinable.</p> <p>The particular objectives of the OSCE are to test each student's capability in:</p> <ul style="list-style-type: none"> • Taking a client/patient history, performing a physical examination relevant to the presenting condition • Applying and justifying physiotherapy techniques to that particular condition, modifying and progressing physiotherapy techniques, and applying physiotherapeutic principles to the patient management • Applying and justifying principles of minimal manual handling and risk minimization during scenario-based interactions 	<p>Physiotherapy Practical 5 – Medical and Surgical Conditions</p> <p>Physiotherapy Practical 6 – Medical and Surgical Conditions</p>
Viva Voce	<p>The viva voce is designed to test the knowledge and clinical reasoning skills. The examination may take the form of an oral exam tested within a standardised clinical examination environment. All material presented in the course are considered as examinable material. The viva voce will occur during the scheduled examination period at the mid and end of semester</p>	<p>Physiotherapy Practical 1 - MSK</p> <p>Physiotherapy Practical 2 – MSK</p> <p>Physiotherapy Practical 3 – Neurology and Pediatrics</p> <p>Physiotherapy Practical 4 – Neurology and Pediatrics</p> <p>Physiotherapy Practical 5 – Medical and Surgical Conditions</p> <p>Physiotherapy Practical 6 – Medical and Surgical Conditions</p>
Exercise diary	<p>Exercise diary help students to consolidate the skills learnt in their practical sessions. The students will consider variety of exercises learnt (eg. strengthening, stretching or functional) addressing either impairment or function and keep an account of these exercises in a set format and evaluate the effectiveness of the exercises. They then submit their activity log as a part of summative assessment.</p> <p>Example of the format to record their learning activity:</p> <p style="padding-left: 40px;">Aim:</p> <p style="padding-left: 40px;">Type: (ICF format)</p> <p style="padding-left: 40px;">Exercise description:</p> <p style="padding-left: 40px;">Dosage:</p> <p style="padding-left: 40px;">Warnings/precautions:</p> <p>Include an evaluation of one of your exercises:</p> <p><input type="checkbox"/> Is the exercise effective?</p> <p><input type="checkbox"/> Is the exercise safe?</p>	<p>Physiotherapy Theory 2 - MSK</p>
Group exercise	<p>Group exercise is a form of group assessment, where individual student will contribute towards designing and delivering exercises to their peers. Students will conduct a peer reviewed group exercise class targeted to a specific population (eg: stroke, Parkinson's disease, cardiac rehabilitation or pulmonary</p>	<p>Physiotherapy Practical 2 - MSK</p>

	<p>rehabilitation group). This project will provide formative feedback on the concepts of group exercise. This task is designed to allow students to practice delivery of exercise and education and supply formative feedback on exercise delivery.</p> <p>Verbal feedback on performance in conducting a group exercise class will be provided by class participants. Equal participation of all members of the group is an expectation of this task and will be monitored.</p> <p>The assessment is objectively measured using a rubric.</p>	
Quizzes	<p>Summative or formative, computer or paper-based quizzes that assesses students' knowledge learnt during a period of time (eg: weekly or biweekly). These are based on the teaching contents delivered within a timeframe and might have a maximum of two chances to attempt these quizzes. Grades of the attempt will be immediately visible to the students if applied on the learning management system. Grades will be generated on a weekly basis (if weekly quiz), the highest grade of the two attempts will be considered. An average of the grades of all the quizzes will be calculated at the end of the semester and will be added to the grades of other assessment components of a given course.</p>	<p>Integrated Evidence-based Practice 1 Physiotherapy Theory 3 – Neurology and Pediatrics Physiotherapy Theory 4 – Neurology and Pediatrics Integrated Evidence-based Practice 3 Physiotherapy Theory 5 – Medical and Surgical Conditions Research Methodology Integrated Evidence-based Practice 4 Physiotherapy Theory 6 – Medical and Surgical Conditions Physiotherapy Research</p>
Case based learning and performance	<p>The case-based learning task is a summative assessment that evaluate students' ability to understand, integrate, apply and present the knowledge gained through case-based learning. This is a weekly assessment and has elements of both group and individual work. A specifically designed rubric is used to assess the performance of individual students.</p>	<p>Integrated Evidence-based Practice 1 Integrated Evidence-based Practice 2 Integrated Evidence-based Practice 3 Integrated Evidence-based Practice 4</p>
Self and peer evaluation	<p>This formative assessment item is designed to equip students with strategies to improve their learning and performance in CBL sessions. The self-evaluative and communication skills that students develop in this session will also help prepare them for feedback interactions with their supervisors in the clinical education environment. Peer-assessment will also be conducted using an objective rating scale</p>	<p>Integrated Evidence-based Practice 1 Integrated Evidence-based Practice 2 Integrated Evidence-based Practice 3 Integrated Evidence-based Practice 4</p>
Reflective analysis	<p>Reflective writing, presentation or portfolio encourages the students to think about their own experiences and the things that happen to them as a way of becoming aware of their personal views and the individual meaning that each person has for learning. Reflection has</p>	<p>Clinical Placement 1 Clinical Placement 2 Clinical Placement 3 Clinical Placement 4 Clinical Placement 5 Clinical Placement 6</p>

	<p>potential to transform practice; enhance the capacity to critique habitual practices; generate practice knowledge; facilitate an ability to adapt to new situations; resolve conflicts and contradictions in professional practice and enhance self-esteem and satisfaction. Reflection is a means of valuing, developing and professionalizing practice (Baird & Winter 2005).</p> <p>A rubric covering the theme, presentation and reflections will be used to assess individual students.</p>	<p>Clinical Placement 7 Transition to Health Practice</p>
Competency or skills mastery checklist	<p>Competency based assessment is an ongoing assessment done within the clinical placement. The students are placed in a range of clinical placements for a total of 7 placements throughout their program. The learning during is assessed using a competency checklist (currently Assessment of Physiotherapy practice – APP is used). The assessment is done by both students (self) and the educator. The assessment feedback is done at two points – mid-way and final during their placement and the students will have to develop and demonstrate competencies in a number of areas related to clinical practice. By the end of term all students will be required to competently perform practical skills learnt throughout the semester in front of senior/peers and tutors. This competency will be represented by the signing of sections within the skills mastery checklist, located in the practical manual & skill mastery booklet. Successful completion of skills mastery requires all aspects of the list to be completed. This is a summative assessment task. Students will receive formative feedback on their performance from their senior/peer and tutor. Completion of this task will require attendance at skills mastery sessions timetabled throughout the term.</p>	<p>Physiotherapy Practical 1 – MSK Physiotherapy Practical 2 – MSK Clinical Placement 1 Physiotherapy Practical 3 – Neurology and Pediatrics Physiotherapy Practical 4 – Neurology and Pediatrics Clinical Placement 2 Physiotherapy Practical 5 – Medical and Surgical Conditions Physiotherapy Practical 6 – Medical and Surgical Conditions Clinical Placement 3 Clinical Placement 4 Clinical Placement 5 Clinical Placement 6 Clinical Placement 7</p>
Learning needs form	<p>Learning needs form help the clinical educators and supervisors to facilitate effective learning and ensure effective learning relationships. Learning needs form should be completed at the beginning of each clinical placements and shared with clinical educators and supervisors. The completed form should be submitted on the first day of the placement and plan to achieve the learning needs identified discussed with the clinical educators. Submitting this form electronically is a hurdle</p>	<p>Clinical Placement 1 Clinical Placement 2 Clinical Placement 3 Clinical Placement 4 Clinical Placement 5 Clinical Placement 6 Clinical Placement 7</p>

	<p>requirement for all the clinical placement courses. Failure to submit form may result in awarding a zero score for the documentation component of APP and also the withholding of placement results.</p>	
Clinical log	<p>This task is designed to facilitate the integration of theory and practice and to promote reflective practice. Clinical case logs will also provide a valuable feedback to the faculty clinical supervisor about the students' theory-practice gap and assist them in devising instructional strategies to support the students' learning in clinical settings. One clinical case log needs to be completed and submitted at the end of every week of each clinical placement. This document should be submitted electronically to the clinical supervisors.</p>	<p>Clinical Placement 1 Clinical Placement 2 Clinical Placement 3 Clinical Placement 4 Clinical Placement 5 Clinical Placement 6 Clinical Placement 7</p>
Systematic review protocol	<p>A summative written assignment describing the protocol that will be used to conduct a systematic review examining the effects of interventions relevant to physiotherapy practice. This assignment is designed to provide an opportunity for students to learn how to systematically review literature about the effects of physiotherapy interventions. Students will identify the focus of the systematic review and clarify the methods that will be used to gather, appraise and synthesize the relevant information.</p> <p>A rubric covering all aspects of systematic review protocol will be used to assess both group and individual students.</p>	<p>Physiotherapy Research</p>
Case study	<p>This is a written assignment where students present all aspects of patient care based on their clinical placements experience. In addition, they would often have segments of their client interactions being observed by clinical educators and have tasks set by the clinical educator in relation to their clinical reasoning and client management such as relating the management to the available evidence and critiquing their performance. This assignment is designed to allow students to apply their clinical knowledge and skills to the area and stream of physiotherapy in which they are assigned in and frames the tasks in an authentic clinical context. The case study comprises of trigger, clinical educators query and application of evidence. This has a specific rubric that assess various writing, critiquing and application of evidence.</p>	<p>Transition to Health Practice</p>

Graduate research project (Systematic review)	The systematic review summarises the results of published clinical trials and the students are expected to present the recent and best available evidence on a physiotherapy intervention. This is a group work and the students will first produce the research protocol (in Physiotherapy Research), once reviewed and approved by the assessor, they will continue their work on systematic reviews. This has potential to assess both individual and group performance. Development of the review will be supported by weekly lectures and interactive workshops that have been designed to enable the development of relevant skills. Students will be provided links to submit this work in the Turnitin enabled learning management system. The grading will be based on a specifically developed rubric as the marking criteria, and individual feedbacks will be provided to the students regarding the quality of this written work.	Research Project
Professional conduct	This ongoing formative assessment tool measures the effective contribution of the students in class discussions and activities. It provides them with opportunities to effectively practice speaking, persuasive skills and listening in an interactive environment where they can demonstrate their ability to professionally communicate their thoughts on a certain subject area with other fellow students and academics. Students are also required to demonstrate professional behaviour in communication (written and verbal) with department staff and clinical educators (when appropriate) in order to pass the course.	All Courses
Attendance record	Attendance record is an ongoing formative assessment tool to track students' attendance and it is a hurdle that every student will have to pass in order to be eligible to take up final summative assessments and complete the courses. In accordance with FCHS attendance policy, the students are expected to attend all courses both in campus and in clinical practice. For all absences, the students will have to justify and produce evidences to support their justification (eg: sick leave). For all clinical courses, the attendance is 100%.	All Courses