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**Department of Physiotherapy**

 **Hawler technical health College**

**Erbil Polytechnic University**

**Subject: Neurological Rehabilitation**

**Course Book – (Year 4)**

**Lecturer's name: Azad Hasan Kheder**

**Academic Year: 2021/2022**

**Course Book**

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| **1. Course name** | **Neurological Rehabilitations** |
| **2. Lecturer in charge** | **Dr. Azad Hasan Kheder****M.B.Ch.B. M.Sc. F.K.B.M.S.** |
| **3. Department/ College** | **Physiotherapy** |
| **4. Contact** | **e-mail: dr.azad.hasan@epu.edu.iq****Tel: 07507159778** |
| **5. Time (in hours) per week**  | **Theory: 1** **Practical: 3**  |
| **6. Office hours** | **Availability of the lecturer to the student during the week** |
| **7. Course code** |  |
| **8. Teacher's academic profile**  | **Lecrurer M.B.Ch.B. M.Sc. F.K.B.M.S.** |
| **9. Keywords** |  |
| **10. Course overview:**  As neurorehabilitation evolves, it is more challenging for clinicians to maintain state-of-the-art care of their patients. This course will use plenary lectures and smaller breakout sessions, including interactive casebased workshops, to update the audience on medical, psychological, physical, and cognitive approaches to neurorehabilitation. Based on their participation in the course, participants will be able to expand their clinical knowledge and enhance those skills needed to maximize the physical, cognitive, and social function of patients with traumatic brain injury, spinal cord injury, stroke, and neurodegenerative disease. Participants will learn of state-of-the-art research and its application to clinical practice in such diverse topics as exercise, pharmacology, technology, wellness, integrative medicine, patient motivation, and caregiver assistance.  |
| **11. Course objective:*** **On completion of this course the student will be able to:**

• Summarize the research evidence base for neurorehabilitation practice. • Integrate state-of-the-art evidence-based approaches to neurorehabilitation into their care of patients. • Evaluate advances in research that will lead to future approaches to neurorehabilitation. |
| **12. Student's obligation**The Attendance and completion of all tests, exams, assignments, reports , practical sessions …etc |
| **13. Forms of teaching****Theory:** lecture, group discussion, pair work, group work, case-based learning **Laboratory practice**: Lecture, group discussion, skill demonstration, group work, team teaching, self-training. |
| **15. Student learning outcome:*** **On completion of this course the student will be able to:**
* Mention the basic principles and procedures relating to some of the therapeutic exercise modalities.
* Explain The physiological and therapeutic effects of the different therapeutic exercise modalities
* Define and enumerate indications, contraindications, dangers and precautions including techniques of applications
* Explain advantages and disadvantages of the different modalities.
* Select the proper type of exercise depending on patients diagnosis
* Design the appropriate way of application for each modality
* Apply different types of therapeutic exercises on him colleague
* Demonstrate and acquire meaningful communications for instruction to the patient and ensure his/her comfort throughout the treatment
* Know the importance and clinical benefits of test and measurements
* Know how to prepare environment, equipment and patient for evaluation procedures.
* Know the difference between muscle weakness and contracture.
* Know the difference between gross and individual muscle testing.
* Classify and identify different grades of muscle evaluation.
* Apply accurate positions, grasp, stabilization and fixation.

Recognize and be able to carry out basic techniques of muscle testing and take the proper precautions. |
| **16. Course Reading List and References‌:**▪ **Key references**: ▪ Magazines and review (internet): |
| **17. The Topics:**  |
| 1. **Course calendar (Theoretical Part):**

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| --- | --- | --- |
| **Week** | **Outline** | **No. of Hours** |
|  | Spinal cord injury: review of anatomy and physiology | **1** |
|  |  Spinal cord injury (causes, level of injury). | **3** |
|  |  Spinal cord injury (immediate care, treatment and prognoses). | **2** |
|  | Spinal cord injury complications. | **1** |
|  | Bladder problems in spinal cord injury. | **1** |
|  | Spinal cord injury prognosis, deformity. | **1** |
|  | Traumatic brain injury:Types and Mechanisms of head injuryCauses, Clinical features, Potential complications, First aid, and Principles of treatment. | **3** |
|  | Facial nerve injury. | **1** |
|  | **1st Term examination** | **2** |
|  | Peripheral nerve injuries:Classification & typesFunctional assessment, investigation, diagnosis & prognosisTreatment, surgical resection & repair | **3** |
|  | Brachial plexus injury. | **1** |
|  | Axillary nerve injury and Musculo-cutaneous nerve injury.  | **1** |
|  | Median nerve injury. | **1** |
|  | Radial nerve injury. | **1** |
|  | Ulnar nerve injury. | **1** |
|  | Sciatic nerve injury. | **1** |
|  | Common peroneal nerve injury and Post-tibial nerve injury. | **1** |
|  | Compression syndrome and Entrapment syndrome. | **1** |
|  | Neurosurgery:Post surgical Physical therapy in neurosurgical procedures – craniotomy, shunts, SOL resection, surgical treatment of spasticity, cervical cord decompression. | **2** |
|  | **2nd Term examination** | **2** |
|  | **Total** | **30** |

1. **Course Calandar / Practical Part:**

|  |  |  |
| --- | --- | --- |
| **Week** | **Outline**  | **Number of Hours** |
| **Clinical Practice** |
|  | Rehabilitation of spinal cord injury Physiotherapy Assessment of Spinal cord injury. | **9** |
|  | Principles of Physiotherapy at various stages of Spinal cord injury. Rehabilitation goals and ADL training | **24** |
|  | Traumatic brain injury:Physiotherapy principles of immediate and postoperative therapeutic management | **9** |
|  | **1st Term examination**  | **3** |
|  | Physiotherapy of Facial nerve injury. | **3** |
|  | Rehabilitation of peripheral nerve injury and Physiotherapeutic management. | **9** |
|  | Physiotherapy of Brachial plexus injury. | **3** |
|  | Physiotherapy of Axillary nerve injury and Musculo-cutaneous nerve injury.  | **3** |
|  | Physiotherapy of Median nerve injury. | **3** |
|  | Physiotherapy of Radial nerve injury. | **3** |
|  | Physiotherapy of Ulnar nerve injury. | **3** |
|  | Physiotherapy of Sciatic nerve injury. | **3** |
|  | Physiotherapy of Common peroneal nerve injury and Post-tibial nerve injury. | **3** |
|  | Physiotherapy of compression syndrome and entrapment syndrome. | **3** |
|  | Physiotherapy of Neurosurgery:Post surgical Physical therapy in neurosurgical procedures – craniotomy, shunts, SOL resection, surgical treatment of spasticity, cervical cord decompression. | **6** |
|  | **2nd Term examination** | **3** |
| **Total** | **90** |

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| **18. Practical Topics (If there is any)** |
| In this section The lecturer shall write titles of all practical topics he/she is going to give during the term. This also includes a brief description of the objectives of each topic, date and time of the lecture  |
| **19. Examinations:*****1. Compositional:*** In this type of exam the questions usually starts with Explain how, What are the reasons for…?, Why…?, How….?With their typical answersExamples should be provided.***3.True or false type of exams:***In this type of exam a short sentence about a specific subject will be provided, and then students will comment on the trueness or falseness of this particular sentence. Examples should be provided. ***3. Multiple choices:***In this type of exam there will be a number of phrases next or below a statement, students will match the correct phrase. Examples should be provided. |
| **20. Extra notes:**Here the lecturer shall write any note or comment that is not covered in this template and he/she wishes to enrich the course book with his/her valuable remarks. |
| **21. Peer review پێداچوونه‌وه‌ی هاوه‌ڵ** This course book has to be reviewed and signed by a peer. The peer approves the contents of your course book by writing few sentences in this section.*(A peer is person who has enough knowledge about the subject you are teaching, he/she has to be a professor, assistant professor, a lecturer or an expert in the field of your subject).*ئه‌م کۆرسبووکه‌ ده‌بێت له‌لایه‌ن هاوه‌ڵێکی ئه‌کادیمیه‌وه‌ سه‌یر بکرێت و ناوه‌ڕۆکی بابه‌ته‌کانی کۆرسه‌که‌ په‌سه‌ند بکات و جه‌ند ووشه‌یه‌ک بنووسێت له‌سه‌ر شیاوی ناوه‌ڕۆکی کۆرسه‌که و واژووی له‌سه‌ر بکات.هاوه‌ڵ ئه‌و که‌سه‌یه‌ که‌ زانیاری هه‌بێت له‌سه‌ر کۆرسه‌که‌ و ده‌بیت پله‌ی زانستی له‌ مامۆستا که‌متر نه‌بێت.‌‌  |

