**THE VISION OF THE UNIVERSITY OF JORDAN**

A university excelling in pedagogy, research, and innovation and advancing in global standing

**THE MISSION OF THE UNIVERSITY OF JORDAN**

Providing students with fulfilling learning experiences, conducting knowledge-producing research, and building firm societal ties, within an environment conducive to creativity, innovation, and entrepreneurship: making efficient use of resources and forging fruitful partnerships.

**THE VISION OF THE SCHOOL OF REHABILITATION SCIENCES**

Leadership in the creation and development of knowledge, and in the preparation of human resources aspiring for excellence regionally and internationally

**THE MISSION OF THE SCHOOL OF REHABILITATION SCIENCES**

To excel in the preparation and training of model rehabilitation personnel, who participate in the health and community sector, and provide the local and regional community with appropriate rehabilitation services based on needs. Through educational curricula that facilitates the implementation of up to date rehabilitation services based on the best available evidence.

**THE MISSION OF THE DEPARTMENT OF PHYSIOTHERAPY**

The mission of the department of Physiotherapy is to graduate professionals in the field of physical therapy who are to contribute to the health needs of society through education, scholarly activities, research, service and professional practice.

**THE VISION OF THE DEPARTMENT OF PHYSIOTHERAPY**

The vision of the Department of Physical Therapy is to be recognized as an outstanding educational program with high quality faculty members, staff and students

**Course Syllabus**

|  |  |  |
| --- | --- | --- |
| **1** | **Course title** | Physical and electrical modalities  |
| **2** | **Course number** | 1801205  |
| **3** | **Credit hours** | 2 theory, 1 practical  |  |
| **Contact hours (theory, practical)** | 2 theory, 4 practical  |
| **4** | **Prerequisites/corequisites** | 0342103 General Physics + 0303101 General Chemistry + 0501108 Physiology II  |
| **5** | **Program title** | B.Sc. in Physiotherapy  |
| **6** | **Program code** | 1801  |
| **7** | **Awarding institution**  | The University of Jordan  |
| **8** | **School** | Rehabilitation Sciences  |
| **9** | **Department** | Department of Physiotherapy  |
| **10** | **Course level**  | Undergraduate/ second year  |
| **11** | **Year of study and semester (s)** | 2022/2023, second semester |
| **12** | **Other department (s) involved in teaching the course** | NA |
| **13** | **Main teaching language** | English |
| **14** | **Delivery method** | ☐ Face to face learning ✓Blended ☐Fully online |
| **15** | **Online platforms(s)** | ✓Moodle ✓Microsoft Teams ☐Skype ☐Zoom ☐Others………… |
| **16** | **Issuing/Revision Date** | 19.2.2023 |

**17 Course Coordinator:**

|  |
| --- |
| Name: Jennifer Muhaidat Contact hours: Sunday 11-12 & Thursday 12-1Office number: 321 Phone number: 23215Email: j.muhaidat@ju.edu.jo |

**18 Other instructors:**

|  |
| --- |
| Name: Rahaf Badran Email: rahaf.badran70@gmail.comContact hours: Wednesday 12-1Name: Suhaib Alabbadi Email: suhaib.alabbadi@ju.edu.joContact hours: Tuesday 12-1 |

**19 Course Description:**

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| --- |
| This course covers the principles (physics, chemical and mechanical), tools, methods of application and clinical applications of a variety of electrical and physical modalities used in physiotherapy. The modalities covered are heat, cold, electrical current, shock wave, laser, hydrotherapy, magnetic therapy, spinal traction and pneumatic compression. |

**20 Course aims and outcomes:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| A- Aims:* To introduce the mechanisms of injury, pain and healing
* To explore the underlying theory and the physiological effects of various therapeutic modalities
* To explain the indications and contraindications for the use of a certain modality
* To review the research evidence behind the use of the modalities for certain conditions
* To introduce the student to the modalities in practical sessions and review the various settings used for different cases

B- Students Learning Outcomes (SLOs): Upon successful completion of this course, students will be able to:

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| SLOsSLOs of the course | SLO (1) | SLO (2) | SLO (3) | SLO (4) | SLO (5) | SLO (6) | SLO (7) | SLO (8) | SLO (9) | SLO (10) | SLO (11) |
| 1.Use the ICF model in clinical case scenario analysis | X |  |  |  |  |  |  |  |  |  |  |
| 2. Demonstrate comprehension of pathological aspects of tissue healing, muscle tone, motion restriction and pain |  | X |  |  |  |  |  |  |  |  |  |
| 3. Demonstrate comprehension of physical and chemical interactions underlying the use of therapeutic modalities |  | X |  |  |  |  |  |  |  |  |  |
| 4. Use online resources to extract research evidence on the use of modalities |  |  | X |  |  |  |  |  |  |  |  |
| 5. Display ethical practice when using modalities by understanding indications, contraindications, and precautions for the use of modalities  |  |  |  | X |  |  |  |  |  |  |  |
| 6. Display critical thinking skills when critiquing research findings related to therapeutic modalities |  |  |  |  | X |  |  |  |  |  |  |
| 7. Implement decision making and clinical reasoning skills in solving case studies  |  |  |  |  |  | X |  |  |  |  |  |
| 8. Apply reflection on physiotherapy practice using modalities |  |  |  |  |  | X |  |  |  |  |  |
| 9. Plan physiotherapy interventions including therapeutic modalities based on the best available evidence |  |  |  |  |  |  | X |  |  |  |  |
| 10. Demonstrate appropriate application and interpretation of patient outcomes such as pain, tissue healing, motion restriction, tone abnormalities and functional outcomes  |  |  |  |  |  |  | X |  |  |  |  |
| 11. Apply therapeutic modalities appropriately and safely |  |  |  |  |  |  |  |  |  | X |  |

Program SLOs:1. Recognize, critically analyze and apply the conceptual frameworks and theoretical models underpinning physiotherapy practice
2. Demonstrate comprehension of background knowledge that informs sound physiotherapy practice
3. Demonstrate the ability to use online resources and technologies in professional development
4. Display a professional commitment to ethical practice by adhering to codes of conduct and moral frameworks that govern the practice of physiotherapy
5. Evaluate the importance of and critically appraise research findings to inform evidence-based practice such that these skills could be utilized in continuing self-development
6. Implement clinical reasoning, reflection, decision-making, and skillful application of physiotherapy techniques to deliver optimum physiotherapy management
7. Adhere to the professional standards of physiotherapy practice in terms of assessment, management, outcome measurement, and documentation
8. Display a willingness to promote healthy lifestyle and convey health messages to clients
9. Value the willingness to exercise autonomy while appreciating the challenges associated with delivering physiotherapy services
10. Display the ability to practice in a safe, effective, non-discriminatory, inter- and multi-disciplinary manner
11. Demonstrate effective oral and written communication with clients, carers, and health professionals
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**21. Topic Outline and Schedule:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **Week** | **Lecture** | **Topic** | **Student Learning Outcome** | **Learning Methods (Face to Face/Blended/ Fully Online)** | **Platform** | **Synchronous / Asynchronous Lecturing** | **Evaluation Methods** | **Resources** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 1.1 | Introduction patient-oriented problems | --------------- |  Online | MS teams | Synchronous |  ----------- | Cameron 2023 |
| 1.2 | Patient-oriented problems 2 | 2, 7, 10 |  Online | MS teams | Synchronous | Theory exam | Cameron 2023 |
| 1.3 | Introduction to practical sessions ICF revision and goal setting | 1 |  Face to face | ---------- | Synchronous | Practical examProject | Cameron 2023 |
| 2 | 2.1 | Thermotherapy: superficial cold  | 3, 5, 9, 10, 11 |  Online | MS teams | Synchronous |  ----------- | Cameron 2023 |
| 2.2 | Thermotherapy: superficial heat | 3, 5, 9, 10, 11 |  Online | MS teams | Synchronous |  ----------- | Cameron 2023 |
| 2.3 | Thermotherapy: superficial cold and heat practical | 1-11 |  Face to face | ---------- | Synchronous | Practical exam | Cameron 2023 |
| 3 | 3.1 | Deep heating modalities: Ultrasound 1 | 3, 5, 9, 10, 11 |  Online | MS teams | Synchronous |  ----------- | Cameron 2023 |
| 3.2 | Deep heating modalities: Ultrasound 2 | 3, 5, 9, 10, 11 |  Online | MS teams | Synchronous |  ----------- | Cameron 2023 |
| 3.3 | Ultrasound practical   | 1-11 |  Face to face | ---------- | Synchronous | Practical exam | Cameron 2023 |
| 4 | 4.1 | Deep heating modalities: diathermy 1 | 3, 5, 9, 10, 11 |  Online | MS teams | Synchronous |  ----------- | Cameron 2023 |
| 4.2 | Deep heating modalities: diathermy 1 | 3, 5, 9, 10, 11 |  Online | MS teams | Synchronous |  ----------- | Cameron 2023 |
| 4.3 | Diathermy practical | 1-11 |  Face to face | ---------- | Synchronous | Practical exam | Cameron 2023 |
| 5 | 5.1 | Laser and light 1 | 3, 5, 9, 10, 11 |  Online | MS teams | Synchronous |  ----------- | Cameron 2023 |
| 5.2 | Laser and light 2 | 3, 5, 9, 10, 11 |  Online | MS teams | Synchronous |  ----------- | Cameron 2023 |
| 5.3 | Laser and light practical | 1-11 |  Face to face | ---------- | Synchronous | Practical exam | Cameron 2023 |
| 6 | 6.1 | Ultraviolet | 3, 5, 9, 10, 11 |  Online | MS teams | Synchronous |  ----------- | Cameron 2023 |
| 6.2 | Shock wave therapy | 3, 5, 9, 10, 11 |  Online | MS teams | Synchronous |  ----------- | Cameron 2023 |
| 6.3 | Shock wave therapy practical | 1-11 |  Face to face | ---------- | Synchronous | Practical exam | Cameron 2023 |
| 7 | 7.1 | Spinal traction 1 | 3, 5, 9, 10, 11 |  Online | MS teams | Synchronous |  ----------- | Cameron 2023 |
| 7.2 | Spinal traction 2 | 3, 5, 9, 10, 11 |  Online | MS teams | Synchronous |  ----------- | Cameron 2023 |
|
| **Practical exam 1** |
| 8 | **Theory exam** |
| 9 | **Eid Al Fitr (21-23/4/2023)** |
| 9.2 | Compression | 3, 5, 9, 10, 11 |  Online | MS teams | Synchronous |  ----------- | Cameron 2023 |
| 9.3 | Spinal traction practical | 1-11 |  Face to face | ---------- | Synchronous | Practical exam | Cameron 2023 |
| 10 | 10.1 | Introduction to electrical currents | 3, 5, 9, 10, 11 |  Online | MS teams | Synchronous |  ----------- | Cameron 2023 |
| 10.2 | Electrical current for pain management | 3, 5, 9, 10, 11 |  Online | MS teams | Synchronous |  ----------- | Cameron 2023 |
| 10.3 | Compression practical | 1-11 |  Face to face | ---------- | Synchronous | Practical exam | Cameron 2023 |
| 11 | 11.1 | Electrical currents for tissue healing | 3, 5, 9, 10, 11 |  Online | MS teams | Synchronous |  ----------- | Cameron 2023 |
| 11.2 | Electromyography | 3, 5, 9, 10, 11 |  Online | MS teams | Synchronous |  ----------- | Cameron 2023 |
| 11.3 | Electrical currents for muscle contraction – practical | 1-11 |  Face to face | ---------- | Synchronous | Practical exam | Cameron 2023 |
| 12 | 12.1 | Hydrotherapy 1 | 3, 5, 9, 10, 11 |  Online | MS teams | Synchronous |  ----------- | Cameron 2023 |
| 12.2 | Hydrotherapy 2 | 3, 5, 9, 10, 11 |  Online | MS teams | Synchronous |  ----------- | Cameron 2023 |
| 12.3 | Electrical currents for pain control - practical | 1-11 |  Face to face | ---------- | Synchronous | Practical exam | Cameron 2023 |
| 13 | 13.1 | Alternative modalities | 3, 5, 9, 10, 11 |  Online | MS teams | Synchronous |  ----------- | Cameron 2023 |
| 13.2 | Alternative modalities | 3, 5, 9, 10, 11 |  Online | MS teams | Synchronous |  ----------- | Cameron 2023 |
| 13.3 | Hydrotherapy practical | 1-11 |  Face to face | ---------- | Synchronous | Practical exam | Cameron 2023 |
| 14 | **Practical exam 2** |

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**22 Evaluation Methods:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Opportunities to demonstrate achievement of the SLOs are provided through the following assessment methods and requirements:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Evaluation Activity** | **Mark** | **Topic(s)** | **SLOs** | **Period (Week)** | **Platform** |
| Midterm theory  |  30 | Weeks 1-7 | 1-11 | Week 8 | Face to face |
| Practical exam 1 (Appendix 1) |  10 | Weeks 1-7 | 1, 4, 6, 8 | Week 9  | Face to face |
| Ongoing case discussions (Appendix 2) | 5 | All topics | 1-11 | Ongoing | Face to face |
| Practical exam 2(Appendix 3) | 15 | All topics | 1-11 | Week 14 | Face to face |
| Final theory | 40 | All topics | 1-11 | To be announced by registration | Face to face |

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**23 Course Requirements**

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| Students should have internet connection, a computer and access to Microsoft Teams and the e-learning system. All theory lectures will be provided online via teams. All practical sessions are face to face.Dress code for practical sessions:The dress code is light loose clothing that allows for free movement such as training suits or scrubs. Males and females will be separated during practical application so make sure that you are dressed in a way that allows access to different body parts (shorts and vests).  |

**24 Course Policies:**

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| A- Attendance policies:* Students are expected to be on time.
* Repeated tardiness or leaving early will not be accepted.
* Students who miss class (or any portion of class) are responsible for the content. All classes will be recorded and uploaded on Microsoft Stream. It is the student’s responsibility to review the material of classes they missed.
* Attendance will be taken on every class throughout the semester.
* Absence of more than 15% of all the number of classes (which is equivalent to 3 lectures and 3 labs) requires that the student provides an official excuse to the instructor and the dean.
* If the excuse was accepted the student is required to withdraw from the module.
* If the excuse was rejected the student will fail the module and mark of zero will be assigned according to the regulations of The University of Jordan.

B- Absences from exams and submitting assignments on time:* The instructor will not do any make-up exams.
* Exceptions for make-up exams and late submission of class assignments will be made on a case-by-case basis for true personal emergencies that are described as accepted by the regulations of UJ (e.g., documented medical, personal, or family emergency).
* It is the student's responsibility to contact the instructor within 24 hours of the original exam time to schedule a make-up exam
* Makeup for the final exam may be arranged according to the regulations of The University of Jordan.

C- Health and safety procedures:* Students will not be in direct contact with patients during this course.
* Modalities will be used in accordance with safety protocols

D- Honesty policy regarding cheating, plagiarism, misbehavior:* Students are expected to observe all University guidelines pertaining to academic misconduct.
* Any work submitted by a student for academic credit must be the student's own work. Submission of work taken directly from another source (e.g., book, journal, internet, or another student work) will be considered plagiarism and the student/group will get a zero grade on that homework. In addition, if copying occurred, both the student who copied the work and the student who gave material to be copied (if applicable) will receive a zero for the assignment.
* Students are expected to do work required for homework on their own. Asking other instructors at JU, staff, or other students to assist in or do any part of the assignment for them will negatively affect their grade on that assignment. The course instructor is the person the student needs to talk to if s/he has any difficulties pertaining to an assignment or project and is strongly encouraged to schedule an appointment with the instructor if such difficulties arise during the semester.
* Course materials prepared by the instructor, together with the content of all lectures and review sessions presented by the instructor are the property of the instructor. Video and audio recording of lectures and review sessions without the consent of the instructor is prohibited.
* Any forms of academic misconduct will be handled according to the University of Jordan guidelines.

E- Grading policy:* Grading for this course will be determined based upon the accumulation of points for variety of assignments and exams.
* All work will be evaluated on completeness, organization, clarity of information, and the integration and application of the material.

F- Available university services that support achievement in the course:* The University of Jordan provides many services to support social, health, and mental well-being of students in general and students with disabilities in specific. Students are advised to visit the Deanship of Students Affairs to learn more about those services.
* If you are a student with a disability for which you may request accommodations, please notify the instructor as soon as possible (email is acceptable) so the appropriate accommodations for this course can be made. Also, notify the staff of Services for Student with Disabilities (Deanship of Students Affairs) as soon as possible.
* The University of Jordan provides internet access for students who request such services. Please contact the Assistant Dean for Student Affairs for such requests.
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**Practical session procedures**

In each practical section, students, students are expected to watch the videos and interactive PowerPoint presentations for modalities prior to their attendance of the practical lab. Moreover, a practical session plan with tasks and case studies will be provided as preparation material and each student needs to hand it in at each practical session. All material will be uploaded on the E-learning and MS teams platforms in addition to YouTube for the videos.

**25 References:**

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| Required book (s), assigned reading and audio-visuals: * Cameron, 2023. Physical agents in Rehabilitation: an evidence-based approach to practice, 6th edition. Elsevier
* Articles and teaching materials provided by lecturer through the e-learning website.
* Videos of practical content uploaded on Microsoft Stream, E-learning and YouTube.

Recommended books, materials, and media: * Knight, K.L. & Draper, D.O., 2013. Therapeutic modalities: The art and sciences. 2nd ed. Baltimore: Lippincott Williams & Wilkins.
* Watson T. (2008). Electrotherapy Evidence-based practice, 12th edition. Churchill Livingstone: Elsevier
 |

**26 Additional information:**

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| * This course is highly dependent on the e-learning website and Microsoft Teams so make sure you have access to these platforms and can download the materials and access the online lectures.
* This course builds on the knowledge that you have obtained in the Physics, Chemistry and physiology courses, so make sure that you prepare and revise the necessary information.
* If you require any further information, make sure to e-mail the instructor and arrange for a meeting during the announced office hours.
 |

Name of Course Coordinator: Jennifer Muhaidat Signature: Date: 19.2.2023

Head of Curriculum Committee/Department: --Ibrahim Altubasi---------- Signature: --IMA-----

Head of Department: --Lara Al-Khlaifat-------------- Signature: -----LK-------------------------

Head of Curriculum Committee/Faculty: **Prof. Kamal Hadidi** Signature: KAH

Dean: **Prof. Kamal Hadidi** Signature: KAH

Reviewed by Dr Dania Qutishat

**Appendix 1 – Practical exam 1**

This practical exam will be conducted during week 9 of the course. The aim of this exam is to evaluate the student’s ability to apply modalities safely and appropriately. The total grade for this exam is 10% and the below provided rubric will be used to for grading.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Excellent (3 points) | Good (2 points) | Fair (1 point) | Poor (0-1 points) |
| **Questions to the patient*** Verifies the absence of contraindications and checks for precautions.
* Asks about previous treatment with modalities
 | Able to perform all the skill in a systemic way with logical rationale independently. | Able to perform most of the skill with 1 or 2 clues without guidance. | Able to perform some of the skill with some clues & guidance. | Not able to demonstrate the Skill |
| **Patient and therapist position*** Position patient in a well-supported, comfortable & relaxed position.
* Expose the body part to be treated, have patient remove all jewelry from the area.
 | Able to perform all the skill in a systemic way with logical rationale independently. | Able to perform most of the skill with 1 or 2 clues without guidance. | Able to perform some of the skill with some clues & guidance. | Not able to demonstrate the Skill |
| **Instructions to patient*** Instruct the patient not to move the treatment part, not to touch the output cables or the power cord & the machine
* Inform the patient about the expected and normal feeling during application and the abnormal feeling
 | Able to perform all the skill in a systemic way with logical rationale independently. | Able to perform most of the skill with 1 or 2 clues without guidance. | Able to perform some of the skill with some clues & guidance. | Not able to demonstrate the Skill |
| **Application method*** Select the appropriate parameters
* Apply the modality correctly on the patient (adequate placement and spacing)
* Periodically ask patient about sensation
* Appropriately terminated treatment
 | Able to perform all the skill in a systemic way with logical rationale independently. | Able to perform most of the skill with 1 or 2 clues without guidance. | Able to perform some of the skill with some clues & guidance. | Not able to demonstrate the Skill |

**Appendix 2**

**Case discussion grading criteria**

This case discussion will be ongoing throughout the semester in the practical sessions. Each student will be asked to present a case once and will be graded according to the following criteria. The total grade is 5%.

|  |  |  |  |
| --- | --- | --- | --- |
| **Criteria**  | **Excellent (3 points)** | **Good (2 points)** | **Poor (0-1 point)** |
| Analysis using ICF model  | The student analyses the case according to the elements of the ICF model, without mistakes, without missing out any crucial information from the case  | The student analysis the case according to the elements of the ICF model with minor mistakes, without missing out any crucial information from the case  | The student analysis the case according to the elements of the ICF model with major mistakes, and misses out some crucial information from the case  |
| Patient goals  | The student puts patient-centred goals that are functional and SMART  | The student puts goals that are mostly patient-centred and mostly functional and SMART  | The student puts goals that not patient-centred and not functional and SMART  |
| Modality  | The student described the use of the modality and the procedures without mistakes  | The student described the use of the modality and the procedures with minor mistakes | The student described the use of the modality and the procedures with major mistakes |

**Appendix 3**

**Practical exam 2 grading criteria (15)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Criteria** | **Excellent (4)** | **Good (3)** | **Fair (2)** | **Poor (0-1)** |
| Professionalism  | The student completely adheres to the dress code and professional look, shows excellent communication with the model and is attentive to the comfort of the model and right body mechanics  | The student mostly adheres to the dress code and professional look, shows good communication with the model and is somewhat attentive to the comfort of the model and right body mechanics  | The student somewhat adheres to the dress code and professional look, shows fair communication with the model and is barely attentive to the comfort of the model and right body mechanics  | The student does not adhere to the dress code and professional look, shows poor communication with the model and is not attentive to the comfort of the model and right body mechanics  |
| ICF analysis  | The student analysis the case according to the elements of the ICF model, without mistakes, without missing out any crucial information from the case  | The student analysis the case according to the elements of the ICF model with minor mistakes, without missing out any crucial information from the case  | The student analysis the case according to the elements of the ICF model with major mistakes, and misses out some crucial information from the case  | The student analysis the case according to the elements of the ICF model with major mistakes, and misses out a large amount of crucial information from the case  |
| Functional goal setting and choice of modality  | The student sets a functional goal for the case according to the guidelines on functional goal setting without missing out any elements and chooses the best modality for the case  | The student sets a functional goal for the case according to the guidelines on functional goal setting missing out/wrongly assigning one element and chooses the best modality for the case  | The student sets a functional goal for the case according to the guidelines on functional goal setting missing out/wrongly assigning two elements and chooses a modality that could be used for the case but is not the best  | The student sets a functional goal for the case according to the guidelines on functional goal setting missing out/wrongly assigning more than two elements and chooses a modality that is not applicable to the case or contraindicated  |
| Application of modality  | The student applies the modality by adhering to best practice in terms of parameters, patient positioning, stabilization and application technique  | The student applies the modality with minor mistakes in parameters, patient positioning, stabilization or application technique  | The student applies the modality with major mistakes in parameters, patient positioning, stabilization or application technique  | The student does not know how to apply the modality  |
| Contraindications and precautions  | The student demonstrates excellent understanding of the contraindications and precautions of the chosen modality by listing two of each  | The student demonstrates good understanding of the contraindications and precautions of the chosen modality by listing one of each  | The student demonstrates fair understanding of the contraindications and precautions of the chosen modality by listing one of either  | The student demonstrates poor understanding of the contraindications and precautions of the chosen modality by listing none  |