Course Title	**Advanced Physiotherapy Assessment**				
Course Code	PHYS401				
Course Type	Compulsory				
Level	Bachelor (Level 1)				
Year / Semester	4th/ Fall				
Instructor's Name	Manolis Papadopoulos, Giannis Sisou				
ECTS	6	**Lectures / week**	2	**Laboratories/week**	2
Course Purpose	The aim of the course is to teach the student to understand how to perform a physiotherapy assessment using both the appropriate clinical tools and the cutting edge of existing technology, as well as to record their findings in order to organize an appropriate treatment plan. Using the principles of clinical reasoning and the 'International Classification Functioning' checklist the course aims to contribute to sound decision-making in the work of the physiotherapist				
Learning Outcomes	At the end of the course, students will • know how the method of clinical reasoning in Physiotherapy to make therapeutic decisions • be able to apply the process of in-depth clinical reasoning in the practice of physiotherapy, based on the ICF model of dysfunction and disability • be able to apply the process of in-depth clinical reasoning in the practice of physiotherapy; • be able to conduct a detailed physiotherapeutic assessment and identify problems from various systems; • be able to collect the subjective and objective findings using evaluation tools (questionnaires, scales, apparatus, etc.) to improve any weaknesses of either the evaluation or treatment, • will be able to proceed with the development of appropriate assessment tools. • know in detail the healing stages of injuries and pathological adaptations of the human body as well as the ideal physiotherapeutic intervention for them. • know the fundamental principles of rehabilitation of each musculoskeletal injury and be able to choose evidence based appropriate treatment techniques. • will be able to develop appropriate clinical reasoning depending on the condition and injury and the ICF domains • will be able to design a progressive and specialized physiotherapy program that is safe and suitable for each musculoskeletal injury and is consistent with recent research data. • will be able to make differential diagnosis of their patients and propose documented treatment protocols in simple and complex clinical cases.				

	• will be able to interpret, critically analyze, and apply the results of research related to the problem they are investigating in clinical practice. • will be able to evaluate and apply the probable ways of clinical reasoning for making therapeutic decisions in simple and complex cases. Upon completion of the laboratory course, the learner is expected to be able to: • Apply an advanced clinical reasoning that will incorporate scientific documentation, clinical data, ICF model and bio-psycho-social factors related to the patient's problem. • Critically evaluate the mistakes that may occur during clinical reasoning. • Evaluate and collect clinical data, using outcome measures to ensure the reliability and validity of data and the quality of procedures. • Demonstrate skills to explain findings to the patient with the aim of optimal collaboration through productive discussion. • Demonstrate advanced skills for the implementation of therapeutic plans through the information and education of the patient, for the application of appropriate therapeutic exercises aimed at prevention or treatment		
Prerequisites	None	Co-requisites	None
Course Content	• Clinical reasoning. Definition, purpose, models of clinical reasoning. Clinical reasoning and decision-making. • Theoretical models of clinical reasoning (Unification of knowledge-reasoning, Hypothetical-Inferential Reasoning, recognition of patterns/patents, unified patient-centered model) • Types of clinical reasoning: Scientific Narrative, Interaction, Pragmatic, Ethics, Dependent. • Clinical reasoning errors and ways to avoid them • Physiotherapeutic Evaluation – History: Clinical assessment: collection of subjective and objective findings, using valid and reliable tests (pain questionnaires, functionality, goniometers, dynamometers, muscle mass meters, etc.) • Analytical reasoning process with correlation between history, symptoms and objective signs • The importance of clinical reasoning in making the therapeutic decision Research documentation and Justification of the treatment options (evidenced-based physiotherapy) and evaluation of the therapeutic effect • Clinical reasoning in complex clinical cases with a combination of musculoskeletal and respiratory or neurological problems • Examples of clinical reasoning with case studies. Consideration of findings, discussion on therapeutic objectives and selection of appropriate therapeutic interventions • Methodology for the selection of therapeutic interventions, according to the research-based scientific data based on evidenced practice. Continuous reassessment of findings and course of patients and adaptation of goals and techniques. • Injuries of the shoulder girdle, elbow, carpal tunnel: Main injuries, pathological manifestations and adaptations, specialized evaluation techniques, stages and progress of clinical reasoning, decision making and design of physiotherapeutic rehabilitation programs. • Injuries of the trunk: Main injuries, pathological manifestations and adaptations, specialized evaluation techniques.		

	• Hip-thigh, knee, tibia, ankle, foot injuries: Main injuries, pathological manifestations and adaptations, specialized evaluation techniques, stages and progress of clinical reasoning, decision making and design of physiotherapeutic rehabilitation programs.
Teaching Methodology	**Theory** The course is delivered to the students through lectures, using computer-based presentations programmes. Case Studies, Discussion, Questions / Answers are also used depending on the content of the lecture. Lecture notes and presentations are available online for use by students in combination with textbooks. Relevant material published in international scientific journals is also used to follow the latest developments related to the subject of the course. **Laboratory** During the laboratory courses, students develop their clinical skills in skill trainers and patient simulators so that they can successfully and safely apply them in a real clinical environment.
Bibliography	**Textbooks:** Higgs, J., Jones, M. A., Loftus, S., & Christensen, N. (2018). Clinical Reasoning in the Health Professions EBook. Elsevier Health Sciences. Jones, Mark A., and Darren A. Rivett. (2003) Clinical Reasoning for Manual Therapists E-Book. Elsevier Health Sciences. Brotzman SB, Manske RC. (2011) Clinical Orthopaedic Rehabilitation. An Evidence-Based Approach. 3rdEdition. Philadelphia, PA: Mosby. Butler S. David. (2006) The Sensitive Nervous System. 1st Edition. Australia: Noigroup. Canale ST, Beaty (2016) JH. Campbell's Operative Orthopaedics. 13th Edition. Philadelphia: Mosby. Cyriax J. (2003) Orthopaedic Medicine. Part I: Clinical examination and diagnosis. USA: OPTP. · Hattam P, Smeatham A. (2010) Special Tests in Musculoskeletal Examination: An evidence-based guide for clinicians, (Physiotherapy Pocketbooks). 1st Edition. London: Churchill Livingstone. Higgs, J., Jones, M.A., Loftus, S. & Christensen N. (2008). Clinical reasoning in the Health Professions (3rd ed.). London: Elsevier Butterworth-Heinemann. · Hoppenfeld S: Ορθοπεδική Νευρολογία. Αθήνα: Εκδόσεις Παρισιάνου Α.Ε., (2005). 11. Kisner C, Colby L. Therapeutic Exercise: Foundations and Techniques. 6th Edition. Philadelphia. Davis Plus, 2012. Kisner C, (2003) Therapeutic Exercises. Athens: Medical & Scientific Publications SIOKIS.

	Magee D. Orthopaedic physical assessment. 5th Edition. W.B Saunders Company, (2008). 13. Melzack R & Wall P. Textbook of pain. 6th Edition. London: Churchill Livingstone, Mattingly, C. & Fleming, M.H. (1994). Clinical reasoning: Forms of inquiry in a Therapeutic Practice. Philadelphia: Miller M, Hart J. Review of Orthopaedics. 6th Edition. Philadelphia, PA: Saunders Elsevier, (2012). Petty J. Nichola. (2013) Neuromusculoskeletal Examination and Assessment: A Handbook for Therapists, (Physiotherapy Essentials). 4th Edition. Edinburgh: Churchill Livingstone· Solomon L, Warwick D, Nayagam S. (2010) Apley's System of Orthopaedics and Fractures. 9th Edition. London: Hodder Arnold. Snyder KT, Goodman C. (2007) Differential diagnosis in physical therapy. 4th Edition. Philadelphia: W.B. Saunders Company. **References** Ryder, Dionne, Matthew Low, and Neil Langridge. "Clinical Reasoning and Assessment: Making Sense of Examination Findings." Petty's Musculoskeletal Examination and Assessment-E-Book (2023): 143. Kleiner, Michelle J., et al. "An integrative review of the qualities of a 'good'physiotherapist." Physiotherapy Theory and Practice 39.1 (2023): 89-116. Wijbenga M, Bovend'Eerdt T, Driessen E. (2019) Physiotherapy Students' Experiences with Clinical Reasoning During Clinical Placements: A Qualitative Study, Health Professions Education, Volume 5, Issue 2, Pages 126-135, ISSN 2452-3011, https://doi.org/10.1016/j.hpe.2018.05.003.
Assessment	**Continuous Assessment (50%):** The assessment may include any combination of the following: • **Written and/or oral**, and it consists of multiple – choice, short answer, open ended questions and/or essay questions, that align with the learning outcomes, in order to assess the theoretical knowledge gained. The questions ensure that students will demonstrate a deep understanding of the subject matter and apply their knowledge to solve problems or analyse scenarios. • **Assignments and projects** provide opportunities for students to apply their theoretical knowledge in practical ways. The assignments are designed in a way that require critical thinking, research, analysis, and synthesis of information. Projects can be individual, self directed learning or group-based and should align with the learning outcomes. Students are evaluated on the quality of their work, the depth of understanding displayed, and their ability to effectively communicate their ideas. Assignments and projects may be individual or group work.

	• Use of **case studies or problem-solving exercises** to assess how students can apply theoretical knowledge to real-life situations. Students are presented with scenarios that require analysis, critical thinking, and the application of theoretical concepts and they are assessed based on their ability to perform verbal presentations, viva voce examinations, identify and evaluate relevant information, propose solutions, and provide justifications for their choices. • **Online quizzes or interactive assessments**: Online quizzes or interactive assessments, reflective writing can be used through the Moodle platform, to create quizzes with various question formats. These assessments can be self-paced or timed, and immediate feedback can be provided to students. • **Classroom discussions and debates**: Students engage in classroom discussions and debates to assess their theoretical knowledge. Active participation is encouraged to hone their critical thinking skills by posing open-ended questions and facilitating dialogue. • **Peer and self-assessment**: Students are assigned to review and provide feedback on each other's work, encouraging them to critically evaluate their peers' understanding and provide constructive suggestions. **Laboratory** evaluation consists of assessment of the expected skills and competences, critical thinking, problem-solving and teamwork skills. During the laboratory sessions, students are closely observed as they engage in the assigned tasks and note is taken regarding the actions, approach and any relevant observations that demonstrate their understanding of the subject matter and application of skills. After assessing the laboratory work, constructive feedback is provided to students. Their strengths and areas for improvement are highlighted, linking them back to the learning outcomes to help students understand their progress and guide them towards further development. Depending on the nature of the laboratory work, peer assessment can be incorporated, where students evaluate each other's work based on the established criteria to promote self-reflection, collaboration, and a deeper understanding of the subject matter. **Final Exam (50%):** comprehensive final exam, to assess students' overall theoretical knowledge. These assessment covers a broader range of topics and learning outcomes from the entire program of study, to gauge the students' understanding and integration of knowledge across different areas.
Language	Greek / English