Jordan University of Science and Technology

Academic Plan for Master Degree

Rehabilitation Sciences/Physical Therapy

2024

MASTER OF REHABILITATION SCIENCES / PHYSICAL THERAPY

- **Program Learning Outcomes (PLOs):**

1. Applying knowledge gained from basic medical and scientific courses.
2. Administering evaluation tests relevant to the level of injury in physical therapy.
3. Developing and executing treatment plans.
4. Implementing comprehensive quality assurance protocols within the workplace.
5. Adhering to ethical standards and professional responsibilities.
6. Contributing effectively to collaborative work teams.
7. Engaging in continuous learning and fostering effective communication with peers.

- **Thesis Track:**

Study Program	Credit hrs
Obligatory courses	18
Elective Courses	9
Master Thesis	9
Sum	36

First:-Obligatory courses: (18) Credit Hours

Course No.	Course Title	Credit hrs	Teaching method
PT 711	Advanced management in medical sciences	2	**In campus**
PT 750	Evidence Based Practice in Physical Therapy	3	**Hybrid**
PT 751	Clinical Training in Physical Therapy (1)	3	**In campus**
PT 752	Clinical Practicum in Physical Therapy	1	**Hybrid**
PT 763	Advanced Clinical Neuroscience	2	**In campus**
PT 765	Independent Study in Physical Therapy	2	**Hybrid**
PT 781	Research Methods	2	**In campus**
PT 782	Biostatistics	2	**In campus**
PT 791	Seminar	1	**In campus**

Second:- Elective Courses: Studying (9) Credit hours from the following

Course No.	Course Title	Credit hrs	Teaching method
PT 755	Special Topics in Physical Therapy	1	**In campus**
PT 756	Studies in Geriatric Physical Therapy	1	**In campus**
PT 761	Advanced Musculoskeletal Physical Therapy	3	**In campus**
PT 762	Advanced Pediatrics Physical Therapy	3	**In campus**

PT 763	Advanced Neurologic Physical Therapy	2	**In campus**
PT 764	Advanced Practice in Cardiopulmonary Rehabilitation	2	**In campus**
PT 766	Manual Therapy Techniques in Assessment and Treatment	2	**In campus**
PT 767	Motor Learning and Control of Movement	3	**In campus**
PT 768	Advanced Sport Injuries Management	2	**In campus**
PT 769	Advanced Clinical Biomechanics and Kinesiology	2	**In campus**
PT 771	Assistive technologies in Physical therapy	1	**In campus**

Third:-Master Thesis: total of 9 credit hours as follows:

Course No.	**Course Title**	**Credit hrs**	**Teaching method**
PT 799	Master Thesis	9	**In campus**
PT 799	Master Thesis	6	**In campus**
PT 799	Master Thesis	3	**In campus**
PT 799	Master Thesis	0	**In campus**

- **Comprehensive Exam Track:**

Study Program	Credit hrs
Obligatory courses	27
Elective Courses	9
Sum	36

First:-Obligatory courses: (27) Credit Hours

Course No.	Course Title	Credit hrs	Teaching method
PT 711	Advanced management in medical sciences	2	**In campus**
PT 750	Evidence Based Practice in Physical Therapy	3	**Hybrid**
PT 751	Clinical Training in Physical Therapy (1)	3	**In campus**
PT 752	Clinical Practicum in Physical Therapy	1	**Hybrid**
PT 753	Clinical Training in Physical Therapy (2)	3	**In campus**
PT 763	Advanced Clinical Neuroscience	2	**In campus**
PT 767	Motor Learning and Control of Movement	3	**In campus**
PT 765	Independent Study in Physical Therapy	2	**Hybrid**
PT 769	Advanced Clinical Biomechanics and Kinesiology	2	**In campus**
PT 771	Assistive technologies in Physical therapy	1	**In campus**
PT 781	Research Methods	2	**In campus**
PT 782	Biostatistics	2	**In campus**
PT 791	Seminar	1	**In campus**
	Comprehensive Exam	0	**In campus**

Second:- Elective Courses: Studying (9) Credit hours from the following

Course No.	Course Title	Credit hrs	Teaching method
PT 755	Special Topics in Physical Therapy	1	**In campus**
PT 756	Studies in Geriatric Physical Therapy	1	**In campus**
PT 761	Advanced Musculoskeletal Physical Therapy	3	**In campus**
PT 762	Advanced Pediatrics Physical Therapy	3	**In campus**
PT 763	Advanced Neurologic Physical Therapy	2	**In campus**
PT 764	Advanced Practice in Cardiopulmonary Rehabilitation	2	**In campus**
PT 766	Manual Therapy Techniques in Assessment and Treatment	2	**In campus**
PT 768	Advanced Sport Injuries Management	2	**In campus**

* The student may study 6 credit hours from courses of 700 or 800 level offered by other programs related to his field of study upon approval of the Dean of Graduate Studies based on the recommendation of the departmental graduate studies committee.

COURSE DESCRIPTION FOR THE MASTER OF REHABILITATION SCIENCES / PHYSICAL THERAPY:

PT 711Advanced management in medical sciences: (2 Credit Hours)
An advanced course in rehabilitation clinics management covering topics such as clinics and departments organization, regulations, accreditation, evaluation methods, staffing, competency assessment, cost analysis and containment, inventory control, test utilization, health information systems, and marketing.

PT 750 Evidence based practice in Physical Therapy: (3 Credit Hours)
The course aims to build on existing knowledge of pain physiology to apply advanced clinical assessment, clinical reasoning and clinical therapeutic skills to clinical practice. The course will focus on the scientific rational for pain management approaches and their effects on functional recovery. Students will practice problem solving using case studies directed to enhance patient care.

PT 751 Clinical training in Physical Therapy (1): (3 Credit Hour)
This obligatory training course provides the students to practice their assessment and treatment skills in dealing with patients in their specialties .

PT 752 Clinical practicum in physical therapy: (3 Credit Hours)
This optional advanced training course provides the students to practice their assessment and treatment skills with patients in their specialties. Students are expected to apply the whole therapeutic process under close supervision of licensed physical therapists in the clinics, as well as continuous follow-up by faculty member.

PT 753 Clinical training in Physical Therapy (2): (3 Credit Hours)
This obligatory training course provides the students advanced clinical training in their major fields

PT 755 Special topics in physical therapy: (1 Credit Hours)
This course handles selected topics in the area of physical therapy. Special topics addressed in this course will vary according to the professional interests and clinical expertise of students and will be announced ahead when the course is available. Special topics will cover best practice recommendations for conditions within the scope of physical therapy practice. The latest evidence for planning, implementing effective interventions and assessing outcomes will be explored.

PT 756 Studies in geriatric physical therapy: (1 Credit Hours)
This course advances physical and psycho-behavioral aspects of aging. The course discusses normal and pathological changes with aging. The course discusses treatment options for older clients served in physical therapy clinical settings. The multidimensional concerns of older patients are emphasized in this course.

PT 761 Advanced musculoskeletal physical therapy: (3 Credit Hours)
The course aims to build on existing knowledge of musculoskeletal rehabilitation theory and practice from an evidence-based perspective. Advanced clinical assessment, clinical reasoning, and clinical therapeutic skills to the development of safe, effective and

individualized rehabilitation programs. A therapeutic exercise other treatment modalities prescription for individual with musculoskeletal disorders will be also discusses based on scientific evidence.

PT 762 Advanced pediatrics physical therapy: (3 Credit Hours)
The course is designed to present advanced theoretical and practical approaches of pediatric rehabilitation. Evidence-based practice and approaches for special and advanced pediatric cases will be provided. Clinical assessments, clinical reasoning, clinical therapeutic skills for safe and effective rehabilitation programs for children with neurological, orthopedic, and cardiopulmonary disorders will be included.

PT 763 Advanced clinical neuroscience: (2 Credit Hours)
This course advances the students' knowledge of most common neurological conditions and diagnoses that require rehabilitation services. This course emphasizes the pathobiology, pathophysiology, causes, differential diagnosis, medical management and the role of rehabilitation practitioner in treating these conditions.

PT 763 Advanced neurologic physical therapy: (3 Credit Hours)
The course aims to build on the existing knowledge of neurological rehabilitation theory and practice from an evidence-based perspective. Advanced clinical assessment, clinical reasoning and clinical therapeutic skills to the development of safe, effective and specific rehabilitation programs and exercise prescription for individual with neurological disorders will be also included in **the course.**

PT 764 Advanced practice cardiopulmonary rehabilitation: (2 Credit Hours)
This course will provide those students who have an interest in cardiorespiratory care with the opportunity to study this clinical specialty at advanced level. The course is to enhance the student's clinical effectiveness and facilitate advanced clinical reasoning in cardiopulmonary care. Previously developed skills and knowledge in clinical reasoning and autonomous practice will be applied to the management of cardiopulmonary disorders. This will enable the students to enter the clinical arena with a critical, comprehensive, evidence-based and applied understanding of cardiopulmonary physical therapy. Effective and safe therapeutic tools including exercise and medications will be also included in the course.

PT 765 Independent study in Physical Therapy: (3 Credit Hours)
This course is offered to meet the learning need for individualized student that is not offered through the coursework. Student interested in development of learning in special field will choose a topic approved by the course coordinator, conduct literature search, write a term paper in a review form conduct a presentation, or other form of learning activities approved by the course coordinator.

PT 766 Manual therapy techniques in assessment and treatment: (2 Credit Hours)
In this advanced course, students will learn advanced musculoskeletal examination skills of the upper and lower quadrant. Manual techniques skills in this course which will be covered in this course will include Maitland's techniques, Mulligan concept, Mackenzie method, muscle energy, myofascial techniques, and other manual therapy techniques. Students will learn to manage variety of patients seen in the clinic who present with significant impairment and functional limitation in the upper and lower quarter using

manual therapy based on scientific evidence. This course will be taught in theoretical and practical demonstrations.

PT 767 Motor learning and control of movement: (3 Credit Hours)
This course focuses on the behavioral, biomechanical, and neural foundations of motor skills development, acquisition, and performance. Movement analysis principles are used to explain the neuromotor control processes fundamental for skilled performance in everyday functional behaviors.

PT 768 Advanced sport injuries management: (2 Credit Hours)
This course advances clinical reasoning and clinical skills in the examination and management of sports injuries commonly affecting athletes. The course explores selected mechanisms of sports injuries affecting the neuro-musculoskeletal system, examination procedures, and formulation of treatment plans. Management strategies for acute injuries, improvement in motion performance, sports biomechanics and performance and return to sports activities will be discussed.

PT 769 Advanced clinical biomechanics and kinesiology: (2 credits)
This course advanced students' understanding of normal and abnormal musculoskeletal configurations and its relevant biomechanical considerations of evaluation and treatments applied in the field of rehabilitation sciences. It focuses on the principles of clinical kinesiology and biomechanics as they relate to human motion. The functional application of human motion covering the most recent motion analysis studies' conclusions and recommendations will be translated into clinical therapeutic principles.

PT 771 Measurement in Physical Therapy: (1 Credit Hours)
provides basis for critically evaluating and using tests and measurements in physical therapy evaluation. Focus on reliability, validity, norms, test development process, statistics relevant to tests and measurement, and ethical implications of testing. Critical evaluation of selected standardized test used in physical therapy.

PT 781 Research methods: (2credits)
This course offer students a thorough discussion and understanding of the predominant qualitative and quantitative rehabilitation research paradigms. The course includes discussion and evaluation of research methodologies, and experimental designs in specific areas of rehabilitation sciences. Also, it offers students a thorough understanding of the process of writing original research proposal, hypothesis generation, research methods, research ethical consideration, and proposal presentation.

PT 782 Biostatistics: (2credits)
This course offers an introduction to the majority of statistical techniques used to analyze and interpret data in the biomedical sciences and related fields. Emphasis is on applications of these methods, with the following topics covered: graphical methods, probability, discrete and continuous distributions, inferential statistics for numeric and categorical data, non-parametric methods, one-way ANOVA, simple linear regression & correlation, factorial ANOVA, multiple linear regression and correlation, ANCOVA, logistic regression, longitudinal data analysis and survival analysis.

PT 791 Seminar: (1 Credit Hour)
This course includes discussion of current topics in specific areas of rehabilitation sciences assessments, intervention, treatment, and research trends. One hour of group discussion will be conducted weekly.

PT 799 Master Thesis: (9 Credit Hours)
This course offers individualized physical Therapy research and thesis preparation for master degree candidates. The master thesis is to be carried out under the supervision of a faculty member and the work must represent an original contribution to the field of physical Therapy. The candidate must submit the completed thesis to a committee and successfully defend it according to the Graduate Studies regulations**.**

Comprehensive exam (0 credits)
Passing the comprehensive exam which is individually written based on the student's line of research and courses emphasis.