



الجامعة الوطنية - السودان
National University - Sudan

Postgraduate Diploma in Physiotherapy



Introduction

Historically, physiotherapy in Sudan was practiced by traditional healers due to a lack of trained professionals. In recent years, Sudanese universities have begun offering diploma and bachelor's programs in physiotherapy. However, the healthcare sector continues to face a critical shortage of qualified physiotherapists capable of delivering evidence-based care across diverse populations.

This program is designed to bridge that gap by preparing graduates with general bachelor's degrees for advanced study and practice in physiotherapy. It emphasizes clinical reasoning, social accountability, and professional ethics to meet the evolving needs of Sudan's health system.

Objectives

By the end of this program, students will be able to:

1. **Diagnose physiotherapyrelated conditions using structured, evidencebased clinical reasoning** at the end of the second semester of enrollment, ensuring safe and socially responsive patient care that meets recognized professional standards.
2. **Design and implement individualized physiotherapy interventions** for musculoskeletal, neurological, and cardiorespiratory, etc. conditions within the clinical training sessions, in alignment with ethical guidelines and community health priorities.
3. **Conduct and present a communityfocused project** addressing a local health or rehabilitation issue by the end of the diploma, contributing to knowledge that supports societal wellbeing.
4. **Demonstrate professionalism, ethical conduct, and accountability** throughout all supervised clinical placements, consistent with Sudanese Health Professions Council and ministry of health accreditation requirements and societal expectations for healthcare providers.
5. **Engage in at least one community outreach or disabilityinclusion initiative (Refugee camps)** during the program, reinforcing the role of physiotherapists in promoting equitable access to rehabilitation services.

Expected Learning Outcomes (ELOs)

Upon successful completion of the program, graduates will be able to:

1. Knowledge & Understanding

- Explain the principles of physiotherapy and its role in health promotion and rehabilitation within diverse community contexts.
- Identify and differentiate common physical dysfunctions across age groups, considering local health needs and disparities.
- Recognize contraindications and precautions in physiotherapy practice according to established professional and accreditation standards.

2. Intellectual Skills

- Apply structured clinical reasoning to assess, diagnose, and plan physiotherapy interventions that are safe, ethical, and socially responsive.
- Evaluate patient progress and adjust treatment plans to ensure quality of care and accountability.
- Integrate evidencebased practice into decisionmaking to support effective and equitable rehabilitation services.

3. Practical & Professional Skills

- Conduct comprehensive physical assessments and formulate treatment goals that reflect patient needs and community health priorities.
- Deliver safe, effective, evidenced based and updated interventions physiotherapy interventions in accordance with professional guidelines and accreditation expectations.
- Collaborate with interdisciplinary teams and refer patients appropriately to ensure continuity of care and responsible practice.

4. Communication & Social Accountability

- Communicate effectively with patients, families, and healthcare providers while respecting cultural and social diversity.
- Advocate for inclusive and accessible rehabilitation services, particularly in underserved or marginalized or refugees communities.
- Uphold ethical standards and contribute to the advancement of physiotherapy practice in Sudan in alignment with national and international accreditation frameworks.

Career Opportunities

Graduates of the Postgraduate Diploma in Physiotherapy will be to:

Follow the academic pathway and register in Master of Science degree.

Work as qualified and senior physiotherapist in:

- Teaching assistant or technician in physiotherapy faculties.
- Physiotherapy and multidisciplinary clinics
- Child development centers and community health programs
- Fitness, sport, and recreation facilities
- Hospitals and rehabilitation centers
- Home-based care and geriatric facilities
- NGOs and outreach programs supporting disability inclusion
- Prosthetic and orthotic centers.

Admission Requirements

Applicant must satisfy the general regulations set by the Ministry of Higher Education and Scientific Research and the Faculty of Graduate Studies and Scientific Research of National University-Sudan for registration for graduate studies

Eligible applicants are holders of:

- Bachelor (General) in Physiotherapy with grade Good or cGPA ≥ 2.5 minimum
- Bachelor (General) in Physiotherapy with grade Pass with cGPA = 2.0
- Pass an interview and an entry examination

Study plan:

	Course	Code	Credit Hours	Units	
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Semester One					
1.	Kinesiology and Biomechanics	PGDP - 511	2 (1+1)	1	3
2.	Assessment and evaluation	PGDP – 512	2 (1+1)	1	3
3.	Therapeutic Exercises	PGDP – 513	3 (1+2)	1	6
4.	Electrotherapy and Hydrotherapy	PGDP – 514	3 (1+2)	1	6
5.	Radiology and Imaging	PGDP – 515	2 (1+1)	1	3
6.	Neurological Physiotherapy	PGDP – 516	2 (1+1)	1	3
7.	Pediatrics Physiotherapy	PGDP - 517	2 (1+1)	1	3
Total per semester			16 CHs	7	27
Semester Two					
8.	General surgery and Burns Physiotherapy	PGDP - 521	2 (1+1)	1	3
9.	Orthopedics and sports injuries Physiotherapy	PGDP – 522	3 (1+2)	1	6
10.	Cardiopulmonary and geriatrics Physiotherapy	PGDP – 523	3 (1+2)	1	6
11.	Physiotherapy in Women Health	PGDP – 524	2 (1+1)	1	3
12.	Research Methodology	PGDP – 525	2 (1+1)	1	3

13.	Community Based Rehabilitation	PGDP – 526	2 (1+1)	1	3
14.	Physiotherapy Evidence-Based Practice	PGDP - 527	2 (1+1)	1	3
Total per semester			16 CHs	7	27
Total for all semesters			32 CHs	14	54

Course Title: Kinesiology and Biomechanics

Course Code: PGDP-511

Credit Hours: 2 CHs

Course Description:

This course explores the **mechanical principles** governing human movement and the forces acting on the body during physical activity. It covers the application of biomechanics in **sports performance, injury prevention, rehabilitation, and ergonomics**. Students will integrate **theoretical knowledge** with **practical analysis** to understand the relationship between **human anatomy, physics, and movement mechanics**.

Course Title: Assessment and Evaluation

Course Code: PGDP -512

Credit Hours: 2 CHs

Course Description:

This course introduces students to the **theoretical and practical principles** of **assessment and evaluation** in motor function. Students will learn how

to **approach a patient, take a case history, conduct a basic examination, and evaluate findings** to establish **functional diagnoses** based on the **International Classification of Functioning, Disability, and Health (ICF)**. The course covers **detailed examinations of the musculoskeletal, cardiovascular, respiratory, and nervous systems**, including the application of **special tests** for comprehensive patient evaluation.

Course Title: Therapeutic Exercises

Course Code: PGDP -513

Credit Hours: 3 CHs

Course Description:

This course introduces the principles and applications of therapeutic exercises used in rehabilitation. It covers different types of exercises, their indications, contraindications, and evidence-based approaches to treatment.

Course Title: Electrotherapy and hydrotherapy

Course Code: PGDP -514

Credit Hours: 3 CHs

Course Description:

This course provides students with **a comprehensive understanding of electrotherapy, manual therapy, and hydrotherapy**, focusing on **their physiological effects, therapeutic applications, and clinical benefits**. Students will learn **how to apply different modalities in physiotherapy practice**, including **therapeutic electrical currents, sound waves, heat therapy, and light therapy**. The course also covers **hydrotherapy applications, including its role in labor stages**, ensuring **effective treatment strategies for rehabilitation and pain management**.

Course title: Radiology and Imaging**Course Code: PGDP - 515****Credit Hours: 2 CHs****Course Description:**

This course provides physiotherapy students with essential knowledge and practical skills in radiological imaging across all major body systems. It emphasizes the interpretation of radiographic findings and the integration of imaging results into clinical decision making. Students will explore imaging modalities including X ray, CT, MRI, and ultrasound, learning their applications in musculoskeletal, neurological, cardiopulmonary, abdominal, and other systemic conditions. The course highlights image interpretation principles, typical examination protocols, and the clinical relevance of radiological findings in physiotherapy assessment and treatment planning.

Course Title: Neurological Physiotherapy**Course Code: PGDP -516****Credit Hours: 2 CHs****Course Description:**

This course provides students with **a foundational understanding of neuro-physiotherapy**, focusing on **the rehabilitation of patients with neurological disorders**. It covers **the pathophysiological mechanisms affecting the central and peripheral nervous systems**, along with **clinical and instrumental neurological assessments**. Students will gain **hands-on experience in neurological wards**, learning **diagnostic techniques, physiotherapeutic interventions, and rehabilitation strategies** for conditions such as **stroke, cerebral palsy, Parkinson's disease, and spinal cord injuries**.

Course Title Pediatrics Physiotherapy**Course Code: PGDP -517****Credit Hours 2 CHs****Course Description:**

This course provides students with **theoretical knowledge and practical skills in pediatric physiotherapy**, focusing on **sensory and motor deficits, developmental disorders, and functional limitations in childhood diseases**. It covers **neurological, musculoskeletal, and cardiopulmonary conditions**, including **cerebral palsy, neuromuscular diseases, juvenile chronic arthritis, and bronchial asthma**. Students will also learn **first aid techniques for seizures, fever, and acute respiratory distress**, along with **speech therapy interventions for hearing impairments and articulation disorders**.

Course Title: General surgery and Burns Physiotherapy**Course Code: PGDP -521****Credit Hours: 2 CHs****Course Description:**

This course covers physiotherapy interventions for patients undergoing surgery and those recovering from burns. It focuses on rehabilitation techniques, wound healing, post-surgical mobility, and pain management strategies.

Course Title: Orthopedics and Sports Injuries Physiotherapy**Course Code: PGDP -522****Credit Hours: 3 CHs****Course Description:**

This course provides students with **theoretical knowledge and practical skills in orthopedic physiotherapy**, focusing on **assessment, diagnosis, and rehabilitation** of musculoskeletal conditions. Students will engage in **clinical assessments, case studies, and hands-on physiotherapy techniques** to manage **congenital, inflammatory, and degenerative orthopedic disorders**. The course also covers **postoperative care, rehabilitation strategies, and physiotherapeutic interventions for neurological conditions**.

Course Title: Cardiopulmonary and Geriatrics Physiotherapy**Course Code: PGDP- 523****Credit Hours: 3 CHs****Course Description:**

This course introduces students to the **physiotherapeutic management of internal chest diseases**, focusing on conditions that require **rehabilitation and therapeutic intervention**. Students will explore **post-traumatic pain management, functional restoration, and physiotherapy applications in intensive care units (ICU & CCU)**. The course covers essential rehabilitation techniques, patient care strategies, and multidisciplinary coordination for patients with **limited mobility due to cardiovascular or respiratory conditions**.

Course Title: Physiotherapy in Women Health**Course Code: PGDP -524****Credit Hours: 2 CHs****Course Description:**

This course provides students with **specialized knowledge in physiotherapy for pregnancy, childbirth, and postpartum recovery**, focusing on **musculoskeletal changes, pain relief, and functional rehabilitation**. It equips students with the skills to **support maternal health through postural alignment, core stability, pelvic floor strengthening, and movement therapy**. The course also emphasizes **preventing complications such as urinary incontinence, prolapse, sexual dysfunction, and postpartum recovery challenges**.

Course Title: Research Methodology**Course Code: PGDP -525****Credit Hours: 2 CHs****Course Description:**

Research is a challenging, creative, and intellectually rewarding activity that contributes to the advancement of knowledge, improving services, and solving problems affecting individuals and communities. This course introduces students to **research methodology** as an essential component of evidence-based medical practice. It equips students with the skills required to **conduct research, interpret scientific findings, and apply research principles to real-world medical and health contexts**. The course covers research design, literature review, data collection, statistical analysis, and dissemination of findings in professional settings.

Course Title: Community Based Rehabilitation**Course Code: PGDP -526****Credit Hours: 2 CHs****Course Description:**

This course focuses on building **partnerships with disabled individuals**, including both adults and children, as well as their families and caregivers. It emphasizes **capacity building, holistic rehabilitation, vocational training, and social inclusion** within the framework of community and cultural contexts. Students will gain insights into **primary health care networks, rehabilitation services, human rights advocacy, and community mobilization** for people with disabilities. Additionally, the course provides hands-on experience through **collaboration with volunteers and outreach projects in Sudan**.

Course Title: Evidence-Based practice Physiotherapy**Course Code: PGDP-527****Credit Hours: 2 CHs****Course Description:**

This course provides students with a **specialized approach to physiotherapy**, focusing on the **assessment, treatment, and management of cardiovascular, respiratory, and geriatric disorders** using **scientifically supported methods**. The curriculum emphasizes **clinical expertise, patient-centered care, and evidence-based decision-making** to achieve optimal outcomes. Students will explore **advanced diagnostic tools, therapeutic techniques, and frameworks for clinical decision-making** to improve patient care.

Human Resources

- One Professor
- One Associate Professor
- Two Assistant Professors
- Two Lecturers
- One Technical Staff

Facilities

Lecture Rooms:

- One Lecture Room: 70 seats
- 3 Tutorial room: 20 seats each

Electrotherapy modalities and equipment

- Physiotherapy clinic (prepared with the needed equipment's)
- Transcutaneous Electrical Nerve Stimulation (TENS)
- Ultrasound
- Neuro-Muscular Electrical Stimulation (NMES)
- Paraffin wax
- Exercises equipment
- Gait training tools
- Hydrotherapy swimming pool

Physiotherapy clinics

- Alraqi university Hospital – Physiotherapy department
- National university Sudan Port-Sudan Center- Pediatrics Physiotherapy clinic
- Dr. Mohamed Farah Physiotherapy and Rehabilitation clinic
- Zwam physiotherapy clinic - Cairo
- Arkan physiotherapy clinic – Cairo

- Dr. Mustafa Physiotherapy clinics – Cairo

Hospital

- Alashi Governmental Hospital
- Digna Hospital Port Sudan

Primary health care center

Laboratories:

- Computer lab
- Physiology lab
- Biomechanics lab
- Facilities at the anatomy resource center such as models, Anatomy, ultrasound,
- Digital microscope and cadaveric dissection

Libraries:

- University Main Library
- E-library

MOUs with the following universities:

- Egyptian Chinese University – Faculty of Physical Therapy
- Alazahar University- Cairo, Egypt
- Princess Fatima Academy – Cairo.
- University of Putra Malaysia
- University of Sains Malaysia in the future
- University of the Western Cape- South Africa.
- Jerash University – Jordan

Duration of the Programme

- Two Semesters = 30 weeks = 32 Credit Hours

Teaching Modules

- Lectures
- Seminars and Tutorials
- Interactive learning :group discussion; self-directed learning; journal clubs; problem solving sessions-role play
- Practical works: hospitals, physiotherapy clinical rounds, field work and visits to health authorities. On-campus workshops
- Hands-on training at statistics software referencing surveys

Language of Instruction

- English
- Other/ local language for communication with community leaders and community

Examinations Regulations

Abide by the examination's rules and procedures of the Graduate Studies of the National University-Sudan.

Assessment

Continuous Assessment	Mid- Exam	Final Examination
Seminar/Presentation= %	MCQs= %	MCQs = 20- 40 %
Practical/Clinical= %	SQs= -----%	SSQs= -----%
Assignments/Tutorials= %	Essays/ Short notes= -----%	Essays/ Short notes= -----%
Group discussion: ----%	OSPE= -----%	OSCE= 20-60 %
Case presentation: -----%	Role play:	Logbook=10%
Others= 10%	Others= %	Defense = 80 %
Total= 20%	Total= 20%	Total= 60%

MCQs: Multiple Choice Questions, SQs: Structured Questions.

- Type-A MCQs (best of four) Duration: one minute per MCQ.
- Extended Matching Questions (R-Type EMQs) Duration: 1.5 for each question.

Grading System

- A+ (90-100) A (80-89) B+ (75-79) B (70-74) C+ (65-69) C (60-64) F (<60)

Award of Degrees:

The Scientific Council of the National University-Sudan based on the recommendation of the Board of the Faculty of Graduate Studies and Scientific Research, after fulfilling requirements of the Faculty Board of Faculty of physiotherapy, shall award the successful candidate:

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