Ministry of Higher Education and Scientific Research
Scientific Supervision and Scientific Evaluation Apparatus
Directorate of Quality Assurance and Academic Accreditation
Accreditation Department

Academic Program Description Form

University Name: **Northern Technical University**
Faculty/Institute: **College of Health and Medical Techniques_Al-Dour**
Scientific Department: **Physical Therapy Techniques**
Academic or Professional Program Name: **Physical Therapy Techniques**
Final Certificate Name: **Bachelor in Physical Therapy Techniques**
Academic System: **Courses**
Description Preparation Date: **01-09-2025**
File Completion Date: **15-09-2025**

Signature:
Head of Department Name:
Assist.Prof. Mazin N. Farhan
Date: 15-09-2025

Signature:
Scientific Associate Name:
Dr. Ahmed Moussa Khalaf
Date: 15-09-2025

The file is checked by:
Department of Quality Assurance and University Performance
Director of the Quality Assurance and University Performance Department:
Dr. Ghassan Jasim Hadi
Date: 15-09-2025
Signature:

Approval of the Dean
Dr. Maksood Adil Mahmoud

1. Program Vision

Leadership in preparing specialized physical therapy technicians who possess the scientific and practical skills to deliver innovative rehabilitative services that effectively contribute to improving quality of life and community health at the local and regional levels.

2. Program Mission

The Department of Physical Therapy Techniques is committed to providing distinguished technical education that keeps pace with modern scientific developments, and to graduating qualified personnel capable of delivering high-quality physical therapy services. The department also seeks to support applied scientific research and to strengthen community partnerships in the field of rehabilitation and physical therapy, thereby contributing to the advancement of public health and the achievement of sustainable development goals.

3. Program Objectives

Academic Excellence (developing curricula and updating teaching methods)

Supporting Scientific Research and Innovation (establishing applied research groups and encouraging innovation and invention)

Community Service (operating training clinics, health-awareness campaigns, and institutional and environmental sustainability)

Professional and Leadership Development (annual staff training)

Financial and Material Sustainability (new funding partnerships and infrastructure development)

Transparency and Governance (annual transparency reports and strengthening academic compliance)

International Cooperation (academic exchange programs)

4. Program Accreditation

None

5. Other External Influences

1. Linking the program to the labor market and the healthcare sector

Ensuring program outcomes align with the needs of hospitals, health centers, and rehabilitation centers.

Strengthening partnerships with healthcare and community institutions that provide physical therapy services.

2. Providing material, logistical, or training support

Supplying modern devices and equipment specific to physical therapy.

Supporting student research activities and applied projects.

Organizing advanced training workshops supervised by specialists.

3. Facilitating employment and practical training

Providing field-training opportunities in accredited hospitals and health centers.

Opening employment channels for program graduates within the partner network.

4. Continuous guidance for the program

Providing technical and professional consultations for curriculum development in line with advances in physical therapy.

Contributing to the formulation of program-development strategies to raise graduate competency and improve their labor-market prospects.

6. Program Structure				
Program Structure	**No. of Courses**	**Credit Units**	**Percentage**	**Notes**
Institution Requirements	12	20	12.3%	11 core courses, 1 elective
College Requirements	12	28	17.3%	
Department Requirements	38	114	70.4%	
Summer Training	Yes			Two months distributed across Level 2 and Level 3 (during the summer break)
Other				

** Notes may indicate whether the course is core (required) or elective.*

Study Plan – Department of Physical Therapy Techniques, Academic Year 2025-2026

Level 1						
Requirement Type	**Course Name**	**Theory**	**Practical**	**Units**	**Semester**	**Code**
University Requirements	Human Rights and Democracy	2	-	2	1st	NTU100
	Medical Terminology	2	0	2	2nd	NTU101
	Computer	1	1	2	1st	NTU102

	Arabic Language	2	-	2	2nd	NTU103
	Sports (one course selected)	1	1	2	1st	NTU104
	French Language	2	0	-	-	NTU105
College Requirements	Principles of Medical Biology	2	4	4	1st	MTCD101
	Medical Microbiology	2	4	4	2nd	MTCD102
Department Requirements	Biomechanics	2	-	2	1st	PTT101
	Kinesiology	2	-	2	2nd	PTT102
	Basic Nursing and First Aid	2	3	3	1st	PTT103
	Introduction to Physical Therapy	2	4	4	2nd	PTT104
	Principles of Human Physiology	2	4	4	1st	PTT105
	Human Physiology	2	4	4	2nd	PTT106
	Basics of Anatomy	2	4	4	2nd	PTT107
	Clinical Biochemistry	2	4	4	1st	PTT108
	Medical Physics	2	4	4	2nd	PTT109
University Requirements Total	10	2	10	20.4%		
College Requirements Total	4	8	8	16.3%		
Department Requirements Total	18	27	31	63.3%		

Level 1 Total Units	—	—	49	—

Level 2						
Requirement Type	**Course Name**	**Theory**	**Practical**	**Units**	**Semester**	**Code**
University Requirements	Medical Terminology	2	-	2	1st	NTU200
	Computer	1	1	2	2nd	NTU201
	Arabic Language	2	-	2	1st	NTU202
	Crimes of the Baathist Regime in Iraq	2	-	2	1st	NTU203
	Professional Ethics	2	-	2	2nd	NTU204
College Requirements	Medical Psychology	2	-	2	2nd	MTCD201
	Metabolism	2	2	3	1st	MTCD202
	Biostatistics	2	2	3	2nd	MTCD203
	Summer Training	Completed			—	MTCD204
Department Requirements	Basics of Therapeutic Exercises	2	3	3	1st	PTT201
	Advanced Therapeutic Exercises	2	3	3	2nd	PTT202
	Physiotherapy for General Surgery	2	4	4	1st	PTT203
	Physical Therapy for Diseases of the Muscular System	2	4	4	2nd	PTT204
	Primary Therapeutic Equipment	2	3	3	1st	PTT205

	Specialized Treatment Devices	2	3	3	2nd	PTT206
	Pathology	2	-	2	1st	PTT207
	Pharmacology	2	-	2	2nd	PTT208
	Physiotherapy for Orthopedics	2	3	3	2nd	PTT209
	Human Anatomy	2	3	3	1st	PTT210
University Requirements Total	9	1	10	20.8%		
College Requirements Total	6	4	8	16.7%		
Department Requirements Total	20	26	30	62.5%		
Level 2 Total Units	—	—	48	—		

Level 3						
Requirement Type	**Course Name**	**Theory**	**Practical**	**Units**	**Semester**	**Code**
University Requirements	— (none)	0	0	0	—	—
College Requirements	Computer Applications	1	2	2	Sem 1	MTCD301
	Safety in Laboratories	2	-	2	Sem 2	MTCD302
	Medical Research Methods	2	-	2	Sem 1	MTCD303
	Summer Training	Completed			—	MTCD304
Department Requirements	Physiotherapy for Medical	2	3	3	Sem 1	PTT301

	(Internal) Diseases					
	Physiotherapy for Advanced Surgery	2	3	3	Sem 2	PTT302
	Basic Physiotherapy for Neurological Diseases	2	3	3	Sem 1	PTT303
	Physiotherapy for Spinal Cord Injuries	2	3	3	Sem 2	PTT304
	Physical Therapy for Diseases of the Skeletal System	2	3	3	Sem 1	PTT305
	Physiotherapy for Sport Injuries	2	3	3	Sem 2	PTT306
	Prostheses and Orthotics	1	3	2	Sem 1	PTT307
	Amputee Rehabilitation	1	3	2	Sem 2	PTT308
	Therapeutic Exercises	2	3	3	Sem 1	PTT309
	Therapeutic Equipment	2	3	3	Sem 2	PTT310
University Requirements Total	0	0	0	0.0%		
College Requirements Total	5	2	6	17.6%		
Department Requirements Total	18	30	28	82.4%		
Level 3 Total Units	—	—	34	—		

Level 4 (Academic Year 2026-2027)						
Requirement Type	**Course Name**	**Theory**	**Practical**	**Units**	**Semester**	**Code**
University Requirements	Scientific Research Methodology	2	-	2	Sem1	NTU400
College Requirements	Preventive and Social Medicine (select one)	2	-	2	Sem1	MTCD401
	Serology and Vaccines	2	-	-	Sem1	MTCD402
	Graduation Project	-	-	4	Sem2	MTCD403
Department Requirements	Physiotherapy for Neurological Diseases	2	3	3	Sem1	PTT401
	Advanced Physiotherapy for Neurological Diseases	2	3	3	Sem2	PTT402
	Physiotherapy for Growth and Development of Pediatrics	2	3	3	Sem1	PTT403
	Physiotherapy for Pediatric Diseases	2	3	3	Sem2	PTT404
	Radiology and Diagnostic Imaging for Physiotherapy	2	-	2	Sem1	PTT405
	Physiotherapy for Cardiopulmonary Diseases	2	3	3	Sem1	PTT406
	Workshop: Therapeutic Exercises	-	4	2	Sem1	PTT407
	Hearing and Speech Rehabilitation	2	3	3	Sem2	PTT408

	Health Psychology	2	3	3	Sem2	PTT409
University Requirements Total	0	0	0	0.0%		
College Requirements Total	4	0	6	19.4%		
Department Requirements Total	16	25	25	81%		
Level 4 Total Units	—	—	31	—		

Overall Total Units (All Levels)
164

Requirement Type	University Requirements	College Requirements	Department Requirements
Total Units (All Levels)	20	28	114
Total Percentage (All Levels)	12.3%	17.3%	70.4%

7. Program Description				
Year / Level	**Course Code**	**Course Name**	**Theory Credit**	**Practical Credit**
2025-2026 / Level 1	NTU100	Human Rights and Democracy	2	
2025-2026 / Level 1	NTU101	Medical Terminology	2	
2025-2026 / Level 1	NTU102	Computer	1	1
2025-2026 / Level 1	NTU103	Arabic Language	2	
2025-2026 / Level 1	NTU104	Sports	1	1
2025-2026 / Level 1	MTCD101	Principles of Medical Biology	2	4
2025-2026 / Level 1	MTCD102	Medical Microbiology	2	4
2025-2026 / Level 1	PTT101	Biomechanics	2	
2025-2026 / Level 1	PTT102	Kinesiology	2	
2025-2026 / Level 1	PTT103	Basic Nursing and First Aid	2	3
2025-2026 / Level 1	PTT104	Introduction to Physical Therapy	2	4
2025-2026 / Level 1	PTT105	Principles of Human Physiology	2	4
2025-2026 / Level 1	PTT106	Human Physiology	2	4
2025-2026 / Level 1	PTT107	Basics of Anatomy	2	4
2025-2026 / Level 1	PTT108	Clinical Biochemistry	2	4
2025-2026 / Level 1	PTT109	Medical Physics	2	4
2025-2026 / Level 2	NTU200	Medical Terminology	2	

2025-2026 / Level 2	NTU201	Computer	1	1
2025-2026 / Level 2	NTU202	Arabic Language	2	
2025-2026 / Level 2	NTU203	Crimes of the Baathist Regime in Iraq	2	
2025-2026 / Level 2	NTU204	Professional Ethics	2	
2025-2026 / Level 2	MTCD201	Medical Psychology	2	
2025-2026 / Level 2	MTCD202	Metabolism	2	2
2025-2026 / Level 2	MTCD203	Biostatistics	2	2
2025-2026 / Level 2	PTT201	Basics of Therapeutic Exercises	2	3
2025-2026 / Level 2	PTT202	Advanced Therapeutic Exercises	2	3
2025-2026 / Level 2	PTT203	Physiotherapy for General Surgery	2	4
2025-2026 / Level 2	PTT204	Physical Therapy for Diseases of the Muscular System	2	4
2025-2026 / Level 2	PTT205	Primary Therapeutic Equipment	2	3
2025-2026 / Level 2	PTT206	Specialized Treatment Devices	2	3
2025-2026 / Level 2	PTT207	Pathology	2	
2025-2026 / Level 2	PTT208	Pharmacology	2	
2025-2026 / Level 2	PTT209	Physiotherapy for Orthopedics	2	3
2025-2026 / Level 2	PTT210	Human Anatomy	2	3

2025-2026 / Level 3	MTCD301	Computer Applications	1	2
2025-2026 / Level 3	MTCD302	Safety in Laboratories	2	-
2025-2026 / Level 3	MTCD303	Medical Research Methods	2	-
2025-2026 / Level 3	MTCD304	Summer Training		
2025-2026 / Level 3	PTT301	Physiotherapy for Medical (Internal) Diseases	2	3
2025-2026 / Level 3	PTT302	Physiotherapy for Advanced Surgery	2	3
2025-2026 / Level 3	PTT303	Basic Physiotherapy for Neurological Diseases	2	3
2025-2026 / Level 3	PTT304	Physiotherapy for Spinal Cord Injuries	2	3
2025-2026 / Level 3	PTT305	Physical Therapy for Diseases of the Skeletal System	2	3
2025-2026 / Level 3	PTT306	Physiotherapy for Sport Injuries	2	3
2025-2026 / Level 3	PTT307	Prostheses and Orthotics	1	3
2025-2026 / Level 3	PTT308	Amputee Rehabilitation	1	3
2025-2026 / Level 3	PTT309	Therapeutic Exercises	2	3
2025-2026 / Level 3	PTT310	Therapeutic Equipment	2	3
Level 4 / Coming soon	—	No Level 4 students yet (newly established college)	—	—

8. Program Learning Outcomes

A. Knowledge

A1. Qualifying the student to apply knowledge in medical fields generally and in physical therapy techniques specifically.

A2. Equipping the student with the principles and professional and ethical responsibilities of the specialization.

A3. Familiarizing the student with the basics of laboratory machines, equipment, and workshops in the field of specialization.

A4. Enabling the student to learn the core principles of how to deal with injured patients, whether in terms of the need for rehabilitation or physical therapy across all its branches.

B. Skills

B1. The ability to work and integrate within multidisciplinary teams, whether for rehabilitation or physical therapy.

B2. Providing medical services to patients through outpatient/consultative clinics across all their branches, managed by specialists with the assistance of technical staff who are department graduates.

B3. Qualifying students to use modern technologies and the specialized skills and tools of physical therapy techniques.

B4. The ability to identify and formulate medical problems within the field of specialization.

C. Affective and Value-Based Goals

C1. The ability to communicate effectively with stakeholders in the field of specialization.

C2. Recognizing the need for, and the ability to engage in, lifelong learning.

C3. Awareness of contemporary issues in the field of specialization.

C4. The broad education necessary to understand global solutions and economic, environmental, and social problems in order to supply health institutions, according to their needs, with specializations in rehabilitation and patient treatment in specialized hospitals and outpatient/consultative clinics.

9. Teaching and Learning Strategies

(Theoretical lectures / discussion and dialogue / practical lectures / field visits / discussion seminars / laboratories / desk activities / problem solving / graduation project / summer training)

10. Assessment Methods

Conducting daily, semester, and final examinations; submitting weekly reports; in addition to oral examinations that assess the ability to speak and communicate with others using modern dialogue techniques.

11. Teaching Staff

Academic Rank	General Specialization	Special Requirements/Skills (if any)	Specific Specialization	Staff (Permanent)	Staff (Lecturer)
Assistant Professor	Life Sciences		Parasitology	Permanent	
Assistant Professor	Life Sciences		Microbiology	Permanent	
Assistant Professor	Life Sciences		Physiology	Permanent	
Assistant Professor	Medical Devices Engineering		Medical Devices	Permanent	
Assistant Professor	Chemical Engineering		Chemical Engineering	Permanent	
Lecturer	Mechanical Engineering		Refrigeration & AC	Permanent	
Lecturer	General Medicine		Bones & Joints		Lecturer
Lecturer	General Medicine		Fractures & Joints		Lecturer
Lecturer	Sports Science		Sports	Permanent	
Assistant Lecturer	General Medicine		Fractures & Joints		Lecturer
Assistant Lecturer	Life Sciences		Physiology	Permanent	
Assistant Lecturer	Physics		Solid State Physics	Permanent	
Assistant Lecturer	Life Sciences		Microbiology	Permanent	
Assistant Lecturer	Life Sciences		Plant Anatomy	Permanent	
Assistant Lecturer	Arabic		Grammar & Morphology		Lecturer
Assistant Lecturer	Computer Science		Computer Science	Permanent	

Professional Development
Orientation of New Faculty Members
Development and qualification courses for working in specialized physical therapy centers. Training courses on operating physical-therapy equipment with advanced specialized staff. Conducting specialized scientific studies and research in the field of physical therapy and benefiting from specialized personnel.
Professional Development of Faculty Members
Development and qualification courses for working in specialized centers. Training courses on operating physical-therapy equipment with advanced staff. Conducting specialized scientific studies and research in the field of physical therapy. Attending specialized scientific discussion seminars. Correspondence and self-directed learning.

12. Admission Criteria

Scientific (Science) Track
Grade Average (GPA)

13. Key Sources of Information about the Program

Course textbooks.
Additional resources such as the digital library and internet sources.
Scientific articles in the specific specialization.
The college library.
Theses and dissertations.

14. Program Development Plan

Curriculum Review:

Updating academic content: Curricula are updated based on recent research and new technologies in physical therapy, such as technology-assisted therapy or robotics.

Introducing modern skills: Focus on developing advanced physical-therapy skills such as aquatic therapy, manual therapy, and neuro-kinesiology.

Advanced Practical Training:

Intensive clinical training: Improving practical training in hospitals and health centers to increase students' exposure to diverse cases.

Focus on practical competencies: Such as the ability to accurately assess a case and provide a comprehensive treatment plan based on the patient's needs.

Integration of Modern Technology:

Use of modern treatment technologies: Such as virtual-reality therapy, wearable devices to monitor patient progress, and robotics to assist in motor rehabilitation.

Development of health information systems: Supporting the use of electronic health records and treatment-progress tracking applications to improve communication with patients.

Scientific Research:

Encouraging scientific research in the field: Investing in research related to physical therapy, whether concerning new techniques or a better understanding of recovery processes.

Supporting research publication: Strengthening cooperation with universities and scientific journals to publish advanced research in physical therapy.

Continuous Training and Education:

Continuing-education programs for practitioners: Providing workshops, training courses, and distance-learning programs to update the skills of working practitioners.

Specialized courses: Offering fine specializations such as sports physical therapy or neurological physical therapy.

Focus on Public Health and Prevention:

Strengthening the preventive role: Focusing on injury- and chronic-disease-prevention programs by raising awareness of the importance of physical therapy as part of preventive healthcare.

Community engagement: Strengthening awareness campaigns about the importance of physical therapy and its role in improving quality of life.

Infrastructure Development:

Improving training and practical facilities: Expanding university clinics and practical training centers with modern equipment.

Providing financial support: Increasing funding to support research, facilities, and infrastructure.

15. Program Skills Matrix

Required Program Learning Outcomes

Year / Level	Code	Course Name	Core/Elective	A 1	A 2	A 3	A 4	B 1	B 2	B 3	B 4	C 1	C 2	C 3	C 4	D 1	D 2	D 3	D 4
Level 1 2025-2026	NTU100	Human Rights and Democracy	Core	L		B				L		B	L				P		
	NTU101	Medical Terminology	Core	B		L						B		L			P		
	NTU102	Computer	Core	L				B		L			L			R		P	
	NTU103	Arabic Language	Core	B		L						B	L						P
	NTU104	Sports	Elective			L		B		P		L				R			
	MTCD101	Principles of Medical Biology	Core	L		B		L				L	B			P			
	MTCD102	Medical Microbiology	Core	B		L		L		B	L	L	S		B	B			P
	PTT101	Biomechanics	Core	L	B			P		L			B			L		R	
	PTT102	Kinesiology	Core	L	B			P		L			B			L		R	
	PTT103	Basic Nursing and First Aid	Core	L				L	B	P		B				R	L		

	PTT104	Introduction to Physical Therapy	Core	L		B		L		P		B		L		R			
	PTT105	Principles of Human Physiology	Core	L		B		L			P		L	B		R			
	PTT106	Human Physiology	Core	L				L		S			R		R		L		R
	PTT107	Basics of Anatomy	Core	L	B			L	P				L	B		R			
	PTT108	Clinical Biochemistry	Core	L	B			L		P			B			R		L	
	PTT109	Medical Physics	Core	L	B			L	P				L		B	R			
Level 2 2025-2026	NTU200	Medical Terminology	Core	B		L						B	L				P		
	NTU201	Computer	Core	L				B		L			L			R		P	
	NTU202	Arabic Language	Core	B		L						B	L						P
	NTU203	Crimes of the Baathist Regime in Iraq	Core	L		B						L	B					P	
	NTU204	Professional Ethics	Core	L		B				L		B	L						R

	MTCD201	Medical Psychology	Core	L		B			L			B	L				L		R
	MTCD202	Metabolism	Core	L	B			L		P			L	B		R			
	MTCD203	Biostatistics	Core	L	B				L	P				L		R	P		
	PTT201	Basics of Therapeutic Exercises	Core	L		B		P			L		P				P		R
	PTT202	Advanced Therapeutic Exercises	Core	L	B			P		L			P				P	R	
	PTT203	Physiotherapy for General Surgery	Core	L	B	P									L		B		B
	PTT204	Physical Therapy for Diseases of the Muscular System	Core	L	B	P		L							L		B		B
	PTT205	Primary Therapeutic Equipment	Core	L	B			P		L			L			R		P	
	PTT206	Specialized Treatment Devices	Core	L	B	P		P		L			L			R		P	
	PTT207	Pathology	Core	L	B								L	B		R			
	PTT208	Pharmacology	Core	L	B								L			R			

	PTT209	Physiotherapy for Orthopedics	Core	L	B	P		P		L					L		B		B
	PTT210	Human Anatomy	Core	L	B			P		L			L			R			
Level 3 2025-2026	MTCD301	Computer Applications	Core	L				B		L			L			R		P	
	MTCD302	Safety in Laboratories	Core	L		B				L		B	L						R
	MTCD303	Medical Research Methods	Core	L	B	P			L			B		L		R	P		
	PTT301	Physiotherapy for Medical (Internal) Diseases	Core	L	B	P		P		L			L				B		B
	PTT302	Physiotherapy for Advanced Surgery	Core	L	B	P		P		L			L				B		B
	PTT303	Basic Physiotherapy for Neurological Diseases	Core	L	B	P		P		L			L				B		B
	PTT304	Physiotherapy for Spinal Cord Injuries	Core	L	B	P		P		L			L				B		B

	PTT305	Physical Therapy for Diseases of the Skeletal System	Core	L	B	P		P		L			L				B		B
	PTT306	Physiotherapy for Sport Injuries	Core	L	B			P		L			P				B		B
	PTT307	Prostheses and Orthotics	Core	L	B			S			R		B					L	
	PTT308	Amputee Rehabilitation	Core	L	B			P		L			L				B	L	
	PTT309	Therapeutic Exercises	Core	L	B			P		L	L		P				P	R	
	PTT310	Therapeutic Equipment	Core	L	P			B			P				L			P	
Level 4 Next Year 2026-2027	NTU400	Scientific Research Methodology	Core	L	B	P			L			B		L		R	P		
	MTCD401	Preventive and Social Medicine	Elective	L	B					L		B	L				L		R
	MTCD402	Serology and Vaccines	Elective	L	B					L		B	L				L		R

	MTCD403	Graduation Project	Core	L	B	P		L	P			B	L			R	P		
	PTT401	Physiotherapy for Neurological Diseases	Core	L	B	P		P		L			L				B		B
	PTT402	Advanced Physiotherapy for Neurological Diseases	Core	L	B	P		P		L			L				B	Pj	
	PTT403	Physiotherapy for Growth and Development of Pediatrics	Core	L	B	P		P		L			L				B		B
	PTT404	Physiotherapy for Pediatric Diseases	Core	L	B	P		P		L			L				B		B
	PTT405	Radiology and Diagnostic Imaging	Core	L	B				L				L	B		R			
	PTT406	Physiotherapy for Cardiopulmonary Diseases	Core	L	B	P		P		L			L				B		B

	PTT407	Workshop: Therapeutic Exercises	Core					P	L		P		L				B	R	
	PTT408	Hearing and Speech Rehabilitation	Core	L	S			B			B							L	Pj
	PTT409	Health Psychology	Support	L	S	B													Pj

Legend: B = Book/textbook L = Lecture (theoretical) R = Report S = Seminar Pj = Project P = Practical

Level One

NTU100 — Human Rights and Democracy

1. Course Name	Human Rights and Democracy
2. Course Code	NTU100
3. Semester / Year	First Semester 2025/2026
4. Date of Preparation	15/9/2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	30 theory hours / 2 units
7. Course Coordinator Name	Assist. Prof. Dr. Shaima Ibrahim Taha

8. Course Objectives

The Human Rights and Democracy course increases student awareness and trains students on the importance of active participation in various aspects of life, while strengthening respect for the general principles of human rights across all facets of life.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Increasing the student's knowledge of the conceptual and theoretical dimension and the historical development of human rights and democracy. A2. Developing the student's analytical and critical skills regarding the present and future of human rights and democracy. A3. Enabling students to understand the importance of education and its role in spreading a culture of human rights and democracy in building a civilized society. A4. Understanding grounded in good governance, one of whose most important pillars is belief in human rights.	
Teaching Methods	In-person instruction.
Assessment Methods	Daily tests, semester exams, final exams, weekly reports within the course, seminars within courses, discussions and conversations during class.

B. Skill Objectives Specific to the Course

B1. Introducing the history of human rights and its stages of development.
B2. Spreading the culture and nurturing the student from the Islamic perspective.
B3. How to preserve society and the homeland by reinforcing students' love for their country.

B4. Identifying the most important rights granted to them under international norms and laws, and strengthening students' sense of citizenship.	
Teaching Methods	In-person instruction.
Assessment Methods	Daily tests, semester exams, final exams, weekly reports within the course, seminars within courses, discussions and conversations during class.

C. Affective and Value-Based Objectives

C1. Teaching students to search for real-world problems, link them to the course material, and present them in a logical, orderly sequence. C2. Encouraging students toward objectivity in discussions about the challenges facing the country. C3. Embodying the concept of freedoms for students and clarifying wrongful practices, their consequences, and how to avoid them. C4. Giving the utmost priority to expressing rights.	
Teaching Methods	(In-person lectures)
Assessment Methods	Daily, semester, and final examinations; submission of weekly reports and patient-related seminars and follow-up reports on clinical patient cases, along with practical discussions during the practical lesson in the hospital.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Teamwork and collaboration skills. D2. Computer typing skills. D3. English-language communication skills. D4. Work-endurance and problem-solving skills.

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	2 theory	Knowledge	Historical development of human rights; human rights in ancient civilizations	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
2nd	2 theory	Knowledge	Human rights in the divine religions, with focus on human rights in Islam	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
3rd	2 theory	Knowledge	Human rights in the medieval and modern eras	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams

4th	2 theory	Knowledge	Regional recognition of human rights in Europe, the Americas, Africa, and the Islamic and Arab worlds	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
5th	2 theory	Knowledge	NGOs and their role in human rights (ICRC, Amnesty International, Human Rights Watch, Arab Organization for Human Rights)	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
6th	2 theory	Knowledge	Human rights in international and regional covenants and national legislation	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
7th	2 theory	Knowledge	Human rights in regional covenants (European Convention on Human Rights, American Convention on Human Rights, African Charter on Human and Peoples' Rights, Arab Charter on Human Rights)	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
8th	2 theory	Knowledge	Human rights in national legislation (the Iraqi Constitution)	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
9th	2 theory	Knowledge	Forms and generations of human rights (individual and collective rights)	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
10th	2 theory	Knowledge	National guarantees for the protection of human rights	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
11th	2 theory	Knowledge	Regional and international guarantees for the protection of human rights	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
12th	2 theory	Knowledge	Classification of public freedoms (fundamental and individual freedoms; security and peace of mind; freedom of movement and personal freedom)	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
13th	2 theory	Knowledge	Intellectual and cultural freedoms (freedom of opinion, belief, and education)	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
14th	2 theory	Knowledge	Freedom of the press, freedom of assembly, and freedom to form associations	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
15th	2 theory	Knowledge	Economic and social freedoms (freedom of work, ownership, trade, and industry)	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams

11. Course Assessment

Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Freeman, M. (2017). Human Rights: An Interdisciplinary Approach (3rd ed.). Polity Press.
Main References (Sources)	Beetham, D. (2013). Democracy and Human Rights. Polity Press.
Recommended Books and References	Journal of Human Rights
Electronic References and Websites	Office of the High Commissioner for Human Rights (OHCHR)

Level One

NTU101 — Medical Terminology

1. Course Name	Medical Terminology
2. Course Code	NTU101
3. Semester / Year	Second Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	2 theory hours / 2 units
7. Course Coordinator Name	Assist. Prof. Mazin Nadheer Farhan

8. Course Objectives

This course aims to provide the Physical Therapy Techniques student with the linguistic and scientific foundation for the medical terminology used in the healthcare work environment, through teaching Greek and Latin word roots, prefixes, and suffixes, and applying them to the fields of anatomy, physiology, diseases, and medical procedures, thereby enabling the student to accurately read patient reports and communicate professionally and effectively in the clinical environment.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Introducing the student to the principles of medical-term formation (roots, prefixes, suffixes). A2. Identifying common medical terms associated with body systems (musculoskeletal, nervous, circulatory, respiratory). A3. Becoming familiar with diagnostic and procedural terminology used in physical therapy. A4. Linking medical terminology to anatomical nomenclature and disease-condition vocabulary.	
Teaching Methods	Interactive whiteboard, PowerPoint slides, flashcards, written exercises, classroom discussions.
Assessment Methods	Daily tests, semester tests, final written and oral examinations, weekly reports.

B. Skill Objectives Specific to the Course

B1. Correctly reading and writing basic medical terms.
B2. Analyzing a medical term into its components (root + prefix + suffix) and deriving its meaning.
B3. Using correct medical terminology when reading patient reports and clinical documentation.

B4. Performing comparison and classification exercises on terms according to body systems.	
Teaching Methods	Interactive whiteboard, PowerPoint slides, flashcards, written exercises, classroom discussions.
Assessment Methods	Daily tests, semester tests, final written and oral examinations, weekly reports.

C. Affective and Value-Based Objectives

C1. Appreciating the importance of linguistic precision in health communication and preventing clinical errors. C2. Commitment to the ethics of medical documentation and precise professional expression. C3. Developing a spirit of cooperation in group medical discussions. C4. Openness to continuous learning to keep up with updates in medical terminology.	
Teaching Methods	(In-person lectures), group discussions, clinical case studies.
Assessment Methods	Daily, semester, and final examinations; submission of weekly reports and seminars.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Written and oral communication skills in medical English.
D2. Self-directed research and inquiry skills using medical sources.
D3. Digital skills for using electronic medical dictionaries and references.
D4. Self-learning skills and resolving medical-language problems.

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	2 theory	Knowledge & Application	Introduction to Medical Terminology: History, importance, basic structure (root, prefix, suffix, combining vowel).	Whiteboard, PowerPoint slides, flashcards	Reports, oral and written theoretical exams
2nd	2 theory	Knowledge & Application	Prefixes (Part 1): Common prefixes related to position, direction, and size (e.g., ante-, post-, supra-, infra-, hyper-, hypo-).	Whiteboard, PowerPoint slides, written exercises	Reports, oral and written theoretical exams
3rd	2 theory	Knowledge & Application	Prefixes (Part 2): Prefixes related to number, color, and negation (e.g., uni-, bi-, tri-, poly-, erythr-, leuk-, a-, an-).	Whiteboard, PowerPoint slides, written exercises	Reports, oral and written theoretical exams
4th	2 theory	Knowledge & Application	Suffixes (Part 1): Diagnostic suffixes: -itis, -osis, -oma, -pathy, -algia, -stenosis, -plegia.	Whiteboard, PowerPoint slides, written exercises	Reports, oral and written theoretical exams

5th	2 theory	Knowledge & Application	Suffixes (Part 2): Procedural suffixes: -ectomy, -otomy, -plasty, -scopy, -graphy, -gram, -therapy.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
6th	2 theory	Knowledge & Application	Musculoskeletal System Terminology: Roots related to bones, muscles, and joints (osteo-, myo-, arthr-); common conditions (fracture, arthritis, myopathy).	Whiteboard, PowerPoint slides, classroom discussions	Reports, oral and written theoretical exams
7th	2 theory	Knowledge & Application	Musculoskeletal System (cont.): Range of motion terminology, sprain, strain, dislocation, tendinitis.	Whiteboard, PowerPoint slides, classroom discussions	Reports, oral and written theoretical exams
8th	2 theory	Knowledge & Application	Nervous System Terminology: Roots (neur-, cerebr-, mening-); conditions (neuropathy, hemiplegia, paraplegia, quadriplegia, concussion).	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
9th	2 theory	Knowledge & Application	Cardiovascular System Terminology: Roots (cardi-, angi-, vascul-); conditions (hypertension, arrhythmia, myocardial infarction, atherosclerosis).	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
10th	2 theory	Knowledge & Application	Respiratory System Terminology: Roots (pneum-, pulm-, bronch-); conditions (pneumonia, bronchitis, dyspnea, atelectasis).	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
11th	2 theory	Knowledge & Application	Anatomical Directional Terms and Body Planes: superior/inferior, medial/lateral, proximal/distal; sagittal, coronal, transverse planes.	Whiteboard, PowerPoint slides, anatomical models	Reports, oral and written theoretical exams
12th	2 theory	Knowledge & Application	Diagnostic and Laboratory Terminology: common abbreviations (ECG, MRI, CT, EMG, ROM, ADL); reading basic medical reports.	Whiteboard, PowerPoint slides, sample reports	Reports, oral and written theoretical exams
13th	2 theory	Knowledge & Application	Physical Therapy-Specific Terminology: TENS, IFT, US, SWD, LASER; exercise terms (isometric, isotonic, isokinetic, concentric, eccentric).	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
14th	2 theory	Knowledge & Application	Clinical Documentation Terminology: SOAP notes, referral terminology, discharge summary terms; professional communication vocabulary.	Whiteboard, PowerPoint slides, documentation templates	Reports, oral and written theoretical exams
15th	2 theory	Knowledge & Application	Revision and Comprehensive Review: terminology matching exercises and mock medical report reading.	Whiteboard, PowerPoint slides, intensive exercises	Comprehensive written examinations

11. Course Assessment

Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources

Required Textbooks	Chabner, D. E. (2021). The Language of Medicine (12th ed.). Elsevier Saunders.
Main References (Sources)	Ehrlich, A., & Schroeder, C. L. (2017). Medical Terminology for Health Professions (8th ed.). Cengage Learning.
Recommended Books and References	Medical Terminology – Quick & Concise: A Programmed Learning Approach (2nd ed.). Lippincott Williams & Wilkins.
Electronic References and Websites	MedlinePlus Medical Dictionary (medlineplus.gov); Dorland's Online Medical Dictionary

Level One

NTU102 — Computer

1. Course Name	Computer
2. Course Code	NTU102
3. Semester / Year	First Semester 2025/2026
4. Date of Preparation	15/9/2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	15 theory hours + 15 practical hours / 2 units
7. Course Coordinator Name	Lect. Ahmed Sadiq Bakr

8. Course Objectives

Equipping the student with skills in using basic office applications and creating office files and documents, in addition to using the operating system and the fundamentals of working within a digital environment.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Identifying the basic concepts of information technology and computer components (Hardware & Software), and understanding common operating systems and the mechanism of file and folder management. A2. Understanding the principles of using basic Microsoft Office applications (Word, Excel, PowerPoint) and employing them in preparing academic documents, tables, and presentations. A3. Grasping concepts of the Internet, networks, and email, and becoming familiar with electronic scientific search methods in medical and academic databases (PubMed, Google Scholar). A4. Recognizing the principles of information security and protection of medical data, and becoming familiar with modern trends in employing information technology in the healthcare and physical therapy environment.	
Teaching Methods	In-person instruction (scientific films and videos, laboratories).
Assessment Methods	Daily tests, semester exams, final exams, weekly reports within the course, seminars within courses, discussions and conversations during class.

B. Skill Objectives Specific to the Course

B1. Mastering the operating-system interface, file and folder management, and efficient device-settings configuration. B2. Applying Microsoft Word in preparing academic and clinical reports and documents according to professional formatting standards, and Excel in building tables and analyzing basic data. B3. Designing professional presentations using PowerPoint, and employing electronic search tools to access medical sources and peer-reviewed scientific references. B4. Using email and digital learning platforms professionally, and applying principles of digital documentation in storing patient data in accordance with privacy and security standards.	
Teaching Methods	In-person instruction (scientific films and videos, laboratories).
Assessment Methods	Daily tests, semester exams, final exams, weekly reports within the course, seminars within courses, discussions and conversations during class.

C. Affective and Value-Based Objectives

C1. Appreciating the importance of digital technology as an essential professional tool in the modern healthcare environment, and committing to responsible and ethical use of computers and the Internet. C2. Instilling values of precision and academic integrity when preparing digital reports and research, avoiding plagiarism, and respecting intellectual property rights. C3. Strengthening self-confidence in dealing with constantly evolving digital applications, and developing readiness for self-learning and keeping pace with technical developments in the health field. C4. Raising awareness of the importance of protecting patient data privacy in the digital environment, and establishing the principle of ethical use of electronic medical information.	
Teaching Methods	(In-person lectures and practical training)
Assessment Methods	Daily, semester, and final examinations; submission of weekly reports and patient-related seminars and follow-up reports on clinical patient cases, along with practical discussions during the practical lesson in the hospital.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Developing professional digital communication skills via email and collaborative platforms, and the ability to present information clearly and in an organized digital format. D2. Acquiring research and critical-analysis skills for electronic sources, and distinguishing between reliable and unreliable medical sources online.

D3. Refining time-management and digital-organization skills by employing technical tools to organize academic and clinical tasks.

D4. Preparing the student to use emerging digital health technologies (electronic patient documentation, telehealth, artificial intelligence in healthcare) as a foundation for continuous professional development.

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	1 theory + 1 practical	Knowledge & Application	Computer Fundamentals: concept of the computer, life-cycle stages, evolution of computer generations	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
2nd	1 theory + 1 practical	Knowledge & Application	Advantages of computers and their areas of use; classification of computers by purpose, size, and data type	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
3rd	1 theory + 1 practical	Knowledge & Application	Computer Components: hardware parts and software entities	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
4th	1 theory + 1 practical	Knowledge & Application	Your personal computer; the concept of computer security and software licensing	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
5th	1 theory + 1 practical	Knowledge & Application	Computer Safety & Software Licenses	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
6th	1 theory + 1 practical	Knowledge & Application	Cyber ethics, forms of violations, computer security, computer privacy	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
7th	1 theory + 1 practical	Knowledge & Application	Software licenses and their types, intellectual property, hacking, malicious software, key protection steps against hacking, health effects of computer use	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
8th	1 theory + 1 practical	Knowledge & Application	Operating Systems: definition, functions, objectives, classification, examples of operating systems	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
9th	1 theory + 1 practical	Knowledge & Application	Operating Systems – Windows 7	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
10th	1 theory + 1 practical	Knowledge & Application	Desktop components; Start menu and taskbar	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
11th	1 theory + 1 practical	Knowledge & Application	Folders and files; icons	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams

12th	1 theory + 1 practical	Knowledge & Application	Performing operations on windows; desktop backgrounds	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
13th	1 theory + 1 practical	Knowledge & Application	Control Panel: Windows Control Panel categories	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
14th	1 theory + 1 practical	Knowledge & Application	From Control Panel: Defragment, organizing files within the computer, installing and uninstalling programs	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
15th	1 theory + 1 practical	Knowledge & Application	Some common computer settings and cases: printer management, date and time settings, basic disk maintenance	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Shelly, G. B., & Vermaat, M. E. (2014). Discovering Computers: Fundamentals (8th ed.). Cengage Learning.
Main References (Sources)	Brookshear, J. G., & Brylow, D. (2019). Computer Science: An Overview (13th ed.). Pearson.
Recommended Books and References	Journal of Computer Science and Technology
Electronic References and Websites	GeeksforGeeks – Computer Science Portal

Level One

NTU103 — Arabic Language

1. Course Name	Arabic Language
2. Course Code	NTU103
3. Semester / Year	Second Semester 2025/2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	30 theory hours / 2 units
7. Course Coordinator Name	Lect. Sura Dhiya Mahdi

8. Course Objectives

The student becomes familiar with spelling and language errors and the grammar of the Arabic language.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Identifying the basic rules of syntax and morphology in classical Arabic, and understanding the foundations of grammatical inflection and the classification of nominal and verbal sentences and their applications in academic writing. A2. Understanding the principles of scientific and technical writing in Arabic, and identifying the characteristics of medical and academic style in terms of precision, clarity, and objectivity. A3. Grasping the rules of spelling and punctuation and the foundations of citing Arabic sources, and distinguishing between levels of linguistic style (formal, scientific, administrative) in different professional contexts. A4. Recognizing the importance of the Arabic language in medical documentation and professional communication within the Iraqi healthcare system, and becoming familiar with Arabicized medical terms and their linguistic origins.	
Teaching Methods	In-person instruction (scientific films and videos specific to classical Arabic).
Assessment Methods	Daily tests, semester tests, final examinations.

B. Skill Objectives Specific to the Course

B1. Mastering the writing of academic reports and summaries in classical Arabic with a sound style free of grammatical and spelling errors. B2. Applying critical-reading skills to Arabic scientific and medical texts, extracting main ideas, and rephrasing them in precise, clear language. B3. Employing formal oral-expression skills in delivering academic presentations and discussions, and preparing minutes and administrative documents according to approved linguistic conventions. B4. Using the Arabic medical dictionary and specialized linguistic sources to verify the accuracy of terms, and writing basic clinical reports (such as patient-progress notes) in classical Arabic.	
Teaching Methods	In-person instruction (scientific films and videos specific to classical Arabic).
Assessment Methods	Daily tests, semester tests, final examinations.

C. Affective and Value-Based Objectives

C1. Strengthening linguistic belonging and pride in the Arabic language as a language of science and civilization and a tool for high-level professional expression. C2. Instilling values of academic integrity and respect for intellectual property when employing Arabic texts and sources in scientific writing. C3. Raising awareness of the importance of linguistic precision in the medical environment, and recognizing that a language error in clinical documentation may lead to professional and ethical consequences. C4. Encouraging the student to value bilingualism (Arabic and English) as a professional advantage in the healthcare environment, and strengthening readiness for formal communication in sound, expressive language.	
Teaching Methods	(In-person lectures)
Assessment Methods	Daily, semester, and final examinations.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Developing formal written and oral communication skills in Arabic in academic, professional, and administrative contexts. D2. Acquiring skills for drafting official documents and professional correspondence (reports, minutes, petitions) according to the linguistic and administrative conventions adopted in Iraqi healthcare institutions. D3. Refining critical-thinking skills in text analysis and evaluating the quality of linguistic content, and employing this in reviewing medical and academic documents. D4. Preparing the student for professional engagement with Arabic healthcare and academic circles locally and regionally, and building a strong linguistic capacity that supports long-term career and research development.

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	2 theory	Knowledge	Introduction to language errors – the tied tā', the open tā', and the extended tā'	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
2nd	2 theory	Knowledge	Rules for writing the extended and shortened alif – sun letters and moon letters	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
3rd	2 theory	Knowledge	The letters ḍād and ẓā'	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
4th	2 theory	Knowledge	Writing the hamza	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
5th	2 theory	Knowledge	Punctuation marks	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
6th	2 theory	Knowledge	Nouns and verbs and distinguishing between them	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
7th	2 theory	Knowledge	Direct and indirect objects (al-mafāʿīl)	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
8th	2 theory	Knowledge	Numbers	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
9th	2 theory	Knowledge	Applications on common language errors	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
10th	2 theory	Knowledge	Applications on common language errors (cont.)	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
11th	2 theory	Knowledge	The nūn and tanwīn – meanings of prepositions	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
12th	2 theory	Knowledge	Formal aspects of administrative correspondence	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
13th	2 theory	Knowledge	The language of administrative correspondence	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

14th	2 theory	Knowledge	The language of administrative correspondence (cont.)	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
15th	2 theory	Knowledge	Sample models of administrative correspondence	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Hashim, Mahdi (2018). Introduction to the Study of the Arabic Language. Dar Al-Kutub Al-Ilmiyyah.
Main References (Sources)	Ibn Hisham al-Anṣārī (ed. Muhammad Muhyi al-Din Abd al-Hamid). Mughni al-Labib ʿan Kutub al-Aʿarib. Dar Al-Fikr.
Recommended Books and References	Journal of the Arabic Language Academy in Cairo
Electronic References and Websites	Arabic Language Academy in Cairo

Level One

NTU104 — Sports

1. Course Name	Sports
2. Course Code	NTU104
3. Semester / Year	First Semester 2025/2026
4. Date of Preparation	15/9/2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	15 theory hours + 15 practical hours / 2 units
7. Course Coordinator Name	Dr. Majid Hamid Abed

8. Course Objectives

The student acquires motor skills.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Identifying the basic concepts of physical education and human kinesiology, and understanding the relationship between physical activity, general health, and protecting the body from chronic diseases. A2. Understanding the physiological principles of physical training (load, rest, adaptation) and the effect of exercise on the vital systems (cardiovascular, respiratory, musculoskeletal). A3. Grasping the principles of physical assessment and fitness measurement (strength, flexibility, endurance, balance), and becoming familiar with common sports injuries, their causes, and prevention methods. A4. Recognizing the close link between physical education and physical therapy, and understanding the role of regular physical activity in rehabilitation programs, health prevention, and improving quality of life.	
Teaching Methods	In-person instruction (scientific films and videos on sports training / field practice).
Assessment Methods	Daily tests, semester tests, final examinations.

B. Skill Objectives Specific to the Course

B1. Applying proper warm-up and cool-down programs before and after exercise, and performing basic exercises to develop muscular strength, flexibility, and endurance with sound technique.

B2. Conducting basic physical-fitness measurements (blood pressure, pulse, lung capacity, body mass index) and interpreting results in light of approved health standards. B3. Designing a simple physical-activity program suitable for different age groups, taking into account safety principles, progressive loading, and avoiding excessive strain. B4. Practically learning first aid for common sports injuries (sprains, cramps, heat stress), and applying the basic RICE protocol in the appropriate situation.	
Teaching Methods	In-person instruction (scientific films and videos on sports training / field practice).
Assessment Methods	Daily tests, semester tests, final examinations.

C. Affective and Value-Based Objectives

C1. Strengthening conviction that regular physical activity is a healthy lifestyle and a personal and professional responsibility, and adopting positive movement habits that are reflected in academic and professional performance. C2. Instilling values of discipline, perseverance, and physical endurance, and developing a spirit of fair competition and respect for the rules of play and for peers during group activities. C3. Raising awareness of the physiotherapist's role in promoting community physical health, and recognizing that being a good role model in fitness is part of the physical therapist's professional identity. C4. Developing a spirit of teamwork, cooperation, and solidarity through group sports activities, and establishing values of fairness and accepting differences in physical abilities among individuals.	
Teaching Methods	(In-person lectures / field training)
Assessment Methods	Daily, semester, and final examinations.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Developing communication and leadership skills by leading group exercise sessions, and the ability to direct others and give movement instructions clearly and confidently. D2. Acquiring observation and initial movement-assessment skills, to be employed later in the clinical examination of movement-related and sports physical-therapy cases. D3. Refining stress-management and psychophysical-balance skills through sport, and building the student's capacity to maintain health and energy throughout the years of study and professional practice. D4. Preparing the student to deal with athletic patients and various physical-activity groups in their future career, and building a practical background in training science that supports specialization in sports physical therapy.

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	1 theory + 1 practical	Knowledge & Application	Sport: definition, importance, and types	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
2nd	1 theory + 1 practical	Knowledge & Application	Mechanism of human body movement	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
3rd	1 theory + 1 practical	Knowledge & Application	Common sports injuries	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
4th	1 theory + 1 practical	Knowledge & Application	Basic skills of basketball	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
5th	1 theory + 1 practical	Knowledge & Application	International rules of basketball	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
6th	1 theory + 1 practical	Knowledge & Application	Basic skills of table tennis and its international rules	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
7th	1 theory + 1 practical	Knowledge & Application	Basic skills of volleyball and its international rules	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
8th	1 theory + 1 practical	Knowledge & Application	Swimming	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
9th	1 theory + 1 practical	Knowledge & Application	Basic skills of tennis and its international rules	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
10th	1 theory + 1 practical	Knowledge & Application	Basic skills of handball	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
11th	1 theory + 1 practical	Knowledge & Application	International rules of handball	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
12th	1 theory + 1 practical	Knowledge & Application	Track and field events (types, international rules)	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
13th	1 theory + 1 practical	Knowledge & Application	Basic skills of football (soccer)	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

14th	1 theory + 1 practical	Knowledge & Application	Management of sports competitions and tournaments	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
15th	1 theory + 1 practical	Knowledge & Application	Sports laws and legislation	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Wuest, D. A., & Fisette, J. L. (2014). Foundations of Physical Education, Exercise Science, and Sport (18th ed.). McGraw-Hill.
Main References (Sources)	Siedentop, D. (2004). Introduction to Physical Education, Fitness, and Sport (5th ed.). McGraw-Hill.
Recommended Books and References	Research Quarterly for Exercise and Sport
Electronic References and Websites	WHO – Physical Activity and Health

Level One

MTCD101 — Principles of Medical Biology

1. Course Name	Principles of Medical Biology
2. Course Code	MTCD101
3. Semester / Year	First Semester 2025/2026
4. Date of Preparation	15/9/2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	Theory hours + 60 practical hours / 4 units
7. Course Coordinator Name	Assist. Prof. Dr. Maqsood Adel Mahmoud

8. Course Objectives

Understanding the history and branches of medical biology and dealing with it through accurate diagnosis of its correlation with effects on body systems, which helps the physical therapist deal with such cases.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Knowing the types of causative agents that cause injuries to the body. A2. Genetic factors and chromosomal changes. A3. The body's defense mechanism against pathogens. A4. Some pathogens and how to prevent them.	
Teaching Methods	In-person instruction (scientific films and videos, laboratories, summer and professional training, and graduation projects); scientific visits and practical training in hospitals by specialized medical staff.
Assessment Methods	Daily tests, semester exams, final exams, weekly reports within the course, seminars within courses, discussions and conversations during class.

B. Skill Objectives Specific to the Course

B1. Developing an understanding of the fundamentals of microbiology and the research methods used in this field.
B2. Acquiring technical skills in using the microscope and other laboratory tools used in analyzing live specimens.
B3. Identifying the different types of microorganisms, including bacteria, viruses, fungi, and parasites.

B4. Developing the ability to estimate the size, shape, and cellular structure of organisms using the microscope.	
Teaching Methods	In-person instruction (scientific films and videos, laboratories, summer and professional training, and graduation projects); scientific visits and practical training in hospitals by specialized medical staff.
Assessment Methods	Daily tests, semester exams, final exams, weekly reports within the course, seminars within courses, discussions and conversations during class.

C. Affective and Value-Based Objectives

C1. Achieving interest and positive engagement with biology, and strengthening awareness of the importance of microorganisms in daily life and understanding the vital role they play in the environment and public health. C2. Analyzing the problems facing workers in the field and how to develop the necessary solutions. C3. Working in a spirit of teamwork among the different staff. C4. Understanding patients' suffering and helping to alleviate their pain.	
Teaching Methods	(In-person lectures), summer and professional training and graduation projects, and field visits and life-saving practical training for clinical subjects.
Assessment Methods	Daily, semester, and final examinations; submission of weekly reports and patient-related seminars and follow-up reports on clinical patient cases, along with practical discussions during the practical lesson in the hospital.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Teamwork and collaboration skills.
D2. Computer typing skills.
D3. English-language communication skills.
D4. Work-endurance and problem-solving skills.

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	2 theory + 4 practical	Knowledge & Application	Histomicrobiology – History	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams

2nd	2 theory + 4 practical	Knowledge & Application	Branches of Microbiology	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
3rd	2 theory + 4 practical	Knowledge & Application	Structure of Microbes	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
4th	2 theory + 4 practical	Knowledge & Application	Morphology of Bacteria	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
5th	2 theory + 4 practical	Knowledge & Application	Requirements of Bacteria	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
6th	2 theory + 4 practical	Knowledge & Application	Nutrition (Autotrophic: Photoautotrophic, Chemoautotrophic; Heterotrophic)	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
7th	2 theory + 4 practical	Knowledge & Application	Factors Affecting Growth (Physical factors + Chemical factors)	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
8th	2 theory + 4 practical	Knowledge & Application	Physical and Chemical Methods	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
9th	2 theory + 4 practical	Knowledge & Application	Antibiotics: The Bases of Chemotherapy	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
10th	2 theory + 4 practical	Knowledge & Application	Classification / Nucleic Acid / Tissue Properties	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
11th	2 theory + 4 practical	Knowledge & Application	Growth Curve	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
12th	2 theory + 4 practical	Knowledge & Application	Introduction to Biosafety and Security; main components of bio-risk management; safety measures in laboratories and laboratory design; general safety precautions; personal protective equipment.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
13th	2 theory + 4 practical	Knowledge & Application	Biosafety level, risk assessment strategy, hazard groups, biosafety levels and equipment, standard practices required in biological laboratories.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
14th	2 theory + 4 practical	Knowledge & Application	The biological factors, routes of infection, risk group classification, biosafety measures, control of substances hazardous to health.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams

15th	2 theory + 4 practical	Knowledge & Application	Revision	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Tortora, G. J., & Derrickson, B. (2018). Principles of Anatomy and Physiology (15th ed.). Wiley.
Main References (Sources)	Marieb, E. N., & Hoehn, K. (2019). Human Anatomy & Physiology (11th ed.). Pearson.
Recommended Books and References	Annual Review of Cell and Developmental Biology
Electronic References and Websites	PubMed – Medical Biology Research

Level One

MTCD102 — Medical Microbiology

1. Course Name	Medical Microbiology
2. Course Code	MTCD102
3. Semester / Year	Second Semester 2025/2026
4. Date of Preparation	15/9/2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	30 theory hours + 60 practical hours / 4 units
7. Course Coordinator Name	Lect. Shaymaa Tariq Mahmoud

8. Course Objectives

Acquiring the skill in addition to the information related to the disease condition.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Understanding the principles of medical microbiology: identifying the basic characteristics of microbes and how they are classified. A2. Knowledge of bacteriology and virology: acquiring information about types of bacteria and viruses, their life cycles, and disease-causing mechanisms. A3. Studying methods of prevention and control: understanding how to prevent the spread of infection and contain microbial infections in clinical settings. A4. Developing knowledge of infectious diseases: learning about various infectious diseases and their effects on the human body.	
Teaching Methods	In-person instruction (scientific films and videos, laboratories, summer and professional training, and graduation projects); scientific visits and practical training in hospitals by specialized medical staff.
Assessment Methods	Daily tests, semester exams, final exams, weekly reports within the course, seminars within courses, discussions and conversations during class.

B. Skill Objectives Specific to the Course

B1. Diagnostic skills: developing the ability to correctly collect clinical specimens and perform laboratory tests to diagnose infectious diseases.

B2. Laboratory skills: gaining experience in using the microscope, performing microbial cultures, and identifying microorganisms. B3. Applying infection-control procedures: practicing standard infection-prevention procedures, including sterilization control and the use of personal protective measures. B4. Analytical skills: learning how to analyze laboratory test results and assess their relevance to clinical diagnosis.	
Teaching Methods	In-person instruction (scientific films and videos, laboratories, summer and professional training, and graduation projects); scientific visits and practical training in hospitals by specialized medical staff.
Assessment Methods	Daily tests, semester exams, final exams, weekly reports within the course, seminars within courses, discussions and conversations during class.

C. Affective and Value-Based Objectives

C1. Developing health awareness: developing an informed attitude toward public health and the importance of infection prevention. C2. Appreciating the important role of microbes: learning to appreciate the effective role microorganisms play in the environment and human health. C3. Ethical development: encouraging ethical behavior and commitment to scientific integrity when conducting experiments and interpreting data. C4. Professional responsibility: strengthening a sense of responsibility toward safe and effective healthcare.	
Teaching Methods	(In-person lectures), summer and professional training and graduation projects, and field visits and life-saving practical training for clinical subjects.
Assessment Methods	Daily, semester, and final examinations; submission of weekly reports and patient-related seminars and follow-up reports on clinical patient cases, along with practical discussions during the practical lesson in the hospital.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Teamwork and collaboration skills.
D2. Computer typing skills.
D3. English-language communication skills.
D4. Work-endurance and problem-solving skills.

10. Course Structure					
Week	**Hours**	**Learning Outcomes**	**Unit / Topic Name**	**Teaching Method**	**Assessment Method**
1st	2 theory + 4 practical	Knowledge & Application	Introduction	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
2nd	2 theory + 4 practical	Knowledge & Application	Classification	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
3rd	2 theory + 4 practical	Knowledge & Application	Sterilization & Disinfection	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
4th	2 theory + 4 practical	Knowledge & Application	Immunology	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
5th	2 theory + 4 practical	Knowledge & Application	Immunology (cont.)	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
6th	2 theory + 4 practical	Knowledge & Application	Laboratory Diagnosis	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
7th	2 theory + 4 practical	Knowledge & Application	Bacteriology	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
8th	2 theory + 4 practical	Knowledge & Application	Bacteriology (cont.)	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
9th	2 theory + 4 practical	Knowledge & Application	Viruses	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
10th	2 theory + 4 practical	Knowledge & Application	Viruses (cont.)	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
11th	2 theory + 4 practical	Knowledge & Application	Mycology	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
12th	2 theory + 4 practical	Knowledge & Application	Introduction to Biosafety and Security	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
13th	2 theory + 4 practical	Knowledge & Application	Biosafety level, risk assessment strategy	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams

14th	2 theory + 4 practical	Knowledge & Application	The Biological Factors	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
15th	2 theory + 4 practical	Knowledge & Application	Revision	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Alberts, B., Johnson, A., Lewis, J., Morgan, D., Raff, M., Roberts, K., & Walter, P. (2015). Molecular Biology of the Cell (6th ed.). Garland Science.
Main References (Sources)	Marieb, E. N., & Hoehn, K. (2019). Human Anatomy & Physiology (11th ed.). Pearson.
Recommended Books and References	Journal of Medical Biology
Electronic References and Websites	PubMed – Medical Biology Research

Level One

PTT101 — Biomechanics

1. Course Name	Biomechanics
2. Course Code	PTT101
3. Semester / Year	First Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	Theory hours / 2 units
7. Course Coordinator Name	Dr. Salah Fadhil Abdul-Jabbar

8. Course Objectives

Understanding the types and analysis of motion in the human body.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Identifying the basic concepts of Biomechanics and its importance in understanding human movement, and recognizing the relationship between the laws of mechanical physics and their application to the human body at rest and in motion. A2. Understanding the static and dynamic principles governing the movement of joints and muscles (forces, moments, levers, centers of gravity), and analyzing load distribution on bone and joint structures in various positions. A3. Grasping the concepts of kinematic and kinetic motion (Kinematics & Kinetics), and analyzing patterns of Normal Gait, its phases, and its temporal and spatial variables. A4. Recognizing the biomechanical foundations of common musculoskeletal injuries, and understanding the principles of employing biomechanics in designing therapeutic exercises, Posture Assessment, and injury prevention.	
Teaching Methods	In-person instruction (scientific films and videos, laboratories, summer and professional training, and graduation projects); scientific visits and practical training in hospitals by specialized medical staff.
Assessment Methods	Daily tests, semester exams, final exams, weekly reports within the course, seminars

	within courses, discussions and conversations during class.

B. Skill Objectives Specific to the Course

B1. Applying the principles of force analysis and moment calculation on the major joints (knee, hip, ankle, shoulder), and employing the three classes of levers to explain musculoskeletal movement mechanisms. B2. Conducting a basic biomechanical assessment of body posture (Postural Analysis) in both static and dynamic positions, and identifying postural deviations and explaining them mechanically. B3. Analyzing the Gait Cycle in its complete phases (stance phase and swing phase) and understanding muscle activity at each phase, and applying this in the assessment of movement disorders. B4. Employing biomechanical principles in designing therapeutic exercise programs and determining optimal working angles, and applying the principles of occupational biomechanics (Ergonomics) in assessing the work environment and preventing repetitive strain injuries.	
Teaching Methods	In-person instruction (scientific films and videos, laboratories, summer and professional training, and graduation projects); scientific visits and practical training in hospitals by specialized medical staff.
Assessment Methods	Daily tests, semester exams, final exams, weekly reports within the course, seminars within courses, discussions and conversations during class.

C. Affective and Value-Based Objectives

C1. The ability to communicate effectively with stakeholders in the field of specialization. C2. Recognizing the need for, and the ability to engage in, lifelong learning. C3. Awareness of contemporary issues in the field of specialization. C4. The broad education necessary to understand global solutions and economic, environmental, and social problems in order to supply health institutions, according to their needs, with specializations in rehabilitation and patient treatment in specialized hospitals and outpatient/consultative clinics.	
Teaching Methods	(In-person lectures), summer and professional training and graduation projects, and field visits and life-saving practical training for clinical subjects.
Assessment Methods	Daily, semester, and final examinations; submission of weekly reports and patient-

	related seminars and follow-up reports on clinical patient cases, along with practical discussions during the practical lesson in the hospital.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Teamwork and collaboration skills.
D2. Computer typing skills.
D3. English-language communication skills.
D4. Work-endurance and problem-solving skills.

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	2 theory	Knowledge & Application	Basic Concepts in Biomechanics: Kinematics and Kinetics (Types of Motion, Location of Motion, Direction of Motion, Magnitude of Motion, Definition of Forces, Force of Gravity)	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
2nd	2 theory	Knowledge & Application	Basic Concepts in Biomechanics: Kinematics and Kinetics (Reaction forces, Equilibrium, Objects in Motion, Force of friction, Concurrent force systems, Parallel force systems, Work)	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
3rd	2 theory	Knowledge & Application	Basic Concepts in Biomechanics: Kinematics and Kinetics (Moment arm of force, Force components, Equilibrium of levers, Supporting base, types, and equilibrium in static and dynamic state)	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
4th	2 theory	Knowledge & Application	Muscle Structure and Function: Mobility and stability functions of muscles, elements of muscle structure, muscle function, effects of immobilization and aging	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
5th	2 theory	Knowledge & Application	Levers: Definition, function, classification, and application of levers in physiotherapy; order of levers with examples in the human body	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
6th	2 theory	Knowledge & Application	Elasticity: Definition, stress, strain, Hooke's Law	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
7th	2 theory	Knowledge & Application	Muscular System: Definition, properties of muscle, muscular contraction, structural classification, action of muscle in moving bone, direction of pull, angle of pull, functional classification, coordination of the muscular system.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
8th	2 theory	Knowledge & Application	Muscular System (cont.): Definition, properties of muscle, muscular contraction, structural classification, action of muscle in moving bone, direction of pull, angle of pull, functional	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams

			classification, coordination of the muscular system.		
9th	2 theory	Knowledge & Application	Joint Structure and Function: Basic principles of joint design and a human joint; tissues present in human joints, including dense fibrous tissue, bone, cartilage, and connective tissues.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
10th	2 theory	Knowledge & Application	Joint Structure and Function (cont.): Basic principles of joint design and a human joint; tissues present in human joints, including dense fibrous tissue, bone, cartilage, and connective tissues.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
11th	2 theory	Knowledge & Application	Joint Structure and Function: Classification of joints – synarthrosis, amphiarthrosis, diarthrosis, and sub-classification of synovial joints.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
12th	2 theory	Knowledge & Application	Joint Structure and Function: Joint functions, kinematics, range of motion; general effects of injury and disease.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
13th	2 theory	Knowledge & Application	Posture: dynamic and static posture, kinetics and kinematics of posture, posture analysis, effect of age, pregnancy, and occupation on posture.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
14th	2 theory	Knowledge & Application	Gait: kinematics and kinetics of gait, gait in running and stair climbing.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
15th	2 theory	Knowledge & Application	Revision	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Basic Biomechanics of the Musculoskeletal System (4th ed.). Lippincott Williams & Wilkins.
Main References (Sources)	Hamill, J., Knutzen, K. M., & Derrick, T. R. (2015). Biomechanical Basis of Human Movement (4th ed.). Wolters Kluwer.
Recommended Books and References	Journal of Biomechanics; Clinical Biomechanics; Gait & Posture
Electronic References and Websites	National Center for Biotechnology Information (NCBI)

Level One

PTT102 — Kinesiology

1. Course Name	Kinesiology
2. Course Code	PTT102
3. Semester / Year	Second Semester 2025/2026
4. Date of Preparation	15/9/2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	Theory hours / 2 units
7. Course Coordinator Name	Dr. Salah Fadhil Abdul-Jabbar

8. Course Objectives

Understanding the types and analysis of advanced motion in the human body and how to deal with it.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Identifying the basic concepts of Kinesiology and the principles of functional anatomy of the musculoskeletal system, and understanding the structural relationship between bones, joints, muscles, and ligaments in producing voluntary movement. A2. Understanding muscle-contraction mechanisms and their functional classifications (agonist, antagonist, stabilizer, neutralizer), and grasping the principles of motion analysis for the major joints of the upper and lower extremities and the spine. A3. Grasping the concepts of anatomical planes and axes and types of joint motion (gliding, rotational, combined), and becoming familiar with patterns of Arthrokinematics and their relationship to Osteokinematics. A4. Recognizing the neural foundations of Neuromuscular Control and neuromuscular activation mechanisms, and understanding the concept of Open & Closed Kinetic Chains and their applications in rehabilitation programs.	
Teaching Methods	In-person instruction (scientific films and videos, summer and professional training, and graduation projects); scientific visits and practical training in hospitals by specialized medical staff.
Assessment Methods	Daily tests, semester exams, final exams, weekly reports within the course, seminars within courses, discussions and conversations during class.

B. Skill Objectives Specific to the Course

B1. Applying the principles of functional anatomy to identify the origins, insertions, and functions of the major muscles, and performing basic motion examination to assess joint range of motion (ROM Testing) using approved tools (Goniometer). B2. Analyzing the motion of major joints (shoulder, elbow, wrist, hip, knee, ankle, spine) and identifying the prime movers and stabilizing muscles in each movement, linking this to clinical applications for assessing muscle weakness. B3. Performing Manual Muscle Testing (MMT) according to approved standards, and documenting results accurately within the clinical assessment form. B4. Employing the concepts of kinetic chains and neuromuscular control in designing therapeutic exercises appropriate to different clinical cases, and analyzing the relationship between movement dysfunction and musculoskeletal injury.	
Teaching Methods	In-person instruction (scientific films and videos, summer and professional training, and graduation projects); scientific visits and practical training in hospitals by specialized medical staff.
Assessment Methods	Daily tests, semester exams, final exams, weekly reports within the course, seminars within courses, discussions and conversations during class.

C. Affective and Value-Based Objectives

C1. Appreciating Kinesiology as an essential, indispensable knowledge foundation for clinical practice in physical therapy, and developing a commitment to understanding human movement scientifically before undertaking any therapeutic intervention. C2. Instilling precision and methodology in motion analysis and assessment of muscle-joint function, and recognizing that an incorrect movement diagnosis leads directly to an inappropriate treatment plan. C3. Strengthening integrative thinking that links anatomy, physiology, and neuroscience to kinesiology, and developing readiness to continuously review and update movement-related knowledge in light of new scientific evidence. C4. Encouraging a spirit of careful observation and analytical inquiry when observing human movement patterns in both academic and clinical contexts, and developing professional sensitivity toward individual differences in motor performance.	
Teaching Methods	(In-person lectures), summer and professional training, graduation projects, and field visits.

Assessment Methods	Daily, semester, and final examinations; submission of weekly reports and patient-related seminars and follow-up reports on clinical patient cases, along with practical discussions during the practical lesson in the hospital.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Developing systematic motion-assessment skills and documenting results within the patient's clinical record, and building the ability to write motion-examination reports in precise, standardized professional language.

D2. Acquiring skills in using clinical motion-measurement tools (Goniometer, Inclinometer, Dynamometer), and interpreting their results in the context of the patient's clinical condition and treatment program.

D3. Refining critical-thinking skills in analyzing movement disorders and linking them to clinical diagnosis, and strengthening the ability to make treatment decisions based on a functional understanding of movement.

D4. Preparing the student to employ movement-related knowledge in advanced clinical specialties (sports therapy, neurological rehabilitation, spinal treatment), and building a knowledge foundation that supports scientific research in motion-analysis techniques and functional-performance assessment.

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	2 theory	Knowledge & Application	Peripheral Joints – The Shoulder Complex: Structure and components of the shoulder complex and their integrated function	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
2nd	2 theory	Knowledge & Application	The Elbow Complex: Structure and function of the elbow joint – humeroulnar and humeroradial articulations, superior and inferior radioulnar joints; mobility and stability of the elbow complex; effects of immobilization and injury.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
3rd	2 theory	Knowledge & Application	The Wrist and Hand Complex: Structural components and functions of the wrist complex; structure of the hand complex; prehension; functional position of the wrist and hand.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
4th	2 theory	Knowledge & Application	The Hip Complex: Structure and function of the hip joint; hip joint pathology – arthrosis, fracture, bony abnormalities of the femur.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
5th	2 theory	Knowledge & Application	The Knee Complex: Structure and function of the knee joint – tibiofemoral joint and patellofemoral joint; effects of injury and disease.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
6th	2 theory	Knowledge & Application	The Ankle and Foot Complex: Structure and function of the ankle joint, subtalar joint, talocalcaneonavicular joint, transverse tarsal joint, tarsometatarsal joints, metatarsophalangeal joints, interphalangeal joints; structure and function of the plantar arches; muscles	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

			of the ankle and foot; deviations from normal structure and function – Pes Planus and Pes Cavus.		
7th	2 theory	Knowledge & Application	The Ankle and Foot Complex (cont.): Structure and function of the ankle joint, subtalar joint, talocalcaneonavicular joint, transverse tarsal joint, tarsometatarsal joints, metatarsophalangeal joints, interphalangeal joints; structure and function of the plantar arches; muscles of the ankle and foot; deviations from normal structure and function – Pes Planus and Pes Cavus.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
8th	2 theory	Knowledge & Application	Thorax and Chest Wall: General structure and function; rib cage and the muscles associated with the rib cage; ventilatory motions: coordination and integration; developmental aspects of structure and function; changes in normal structure and function in relation to pregnancy, scoliosis, and COPD.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
9th	2 theory	Knowledge & Application	Thorax and Chest Wall (cont.): General structure and function; rib cage and the muscles associated with the rib cage; ventilatory motions: coordination and integration; developmental aspects of structure and function; changes in normal structure and function in relation to pregnancy, scoliosis, and COPD.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
10th	2 theory	Knowledge & Application	Temporomandibular Joint: General features, structure, function, and dysfunction.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
11th	2 theory	Knowledge & Application	Gait: Defining the stance, swing, and double-support phases of gait; the sub-division of the stance and swing phases of gait; the time and distance parameters of gait.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
12th	2 theory	Knowledge & Application	Gait: Joint motion at the hip, knee, and ankle for one extremity during a gait cycle; the location of the line of gravity in relation to the hip, knee, and ankle during the stance phase of gait; the gravitational moments of force acting at the hip, knee, and ankle during the stance phase.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
13th	2 theory	Knowledge & Application	Gait: Muscle activity at the hip, knee, and ankle throughout the gait cycle, including why and when a particular muscle is active and the type of contraction required; the role of each of the determinants of gait.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
14th	2 theory	Knowledge & Application	Gait: Muscle activity that occurs in the upper extremity and trunk; pathological gaits and gait deviations.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

15th	2 theory	Knowledge & Application	Revision	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Neumann, D. A. (2017). Kinesiology of the Musculoskeletal System: Foundations for Rehabilitation (3rd ed.). Elsevier.
Main References (Sources)	Enoka, R. M. (2015). Neuromechanics of Human Movement (5th ed.). Human Kinetics.
Recommended Books and References	Journal of Biomechanics; Journal of Applied Biomechanics
Electronic References and Websites	PubMed – Kinesiology & Human Movement Research

Level One

PTT103 — Basic Nursing and First Aid

1. Course Name	Basic Nursing and First Aid
2. Course Code	PTT103
3. Semester / Year	First Semester 2025/2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	30 theory hours + 45 practical hours / 3 units
7. Course Coordinator Name	Lect. Nada Wahab Ahmed

8. Course Objectives

Acquiring the skill in addition to the information related to the disease condition.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Identifying the basic concepts of nursing and its ethics, and understanding the principles of Holistic Care and the physiotherapist's role within the multidisciplinary healthcare nursing team. A2. Understanding the principles of Vital Signs and methods of measuring and interpreting them (blood pressure, pulse, respiration, temperature, oxygen saturation), and becoming familiar with normal values and clinical warning indicators. A3. Grasping the principles of Infection Control, Sterilization, and Aseptic Technique, and understanding the chain of infection transmission and the mechanisms for breaking it in the clinical environment. A4. Recognizing the foundations of first aid for common emergency cases (cardiac and respiratory arrest, fainting, bleeding, burns, fractures, poisoning, heat stress), and understanding emergency-response protocols within health facilities.	
Teaching Methods	In-person instruction (scientific films and videos, laboratories, summer and professional training, and graduation projects); scientific visits and practical training in hospitals by specialized medical staff.
Assessment Methods	Daily tests, semester exams, final exams, weekly reports within the course, seminars within courses, discussions and conversations during class.

B. Skill Objectives Specific to the Course

B1. Mastering the measurement of vital signs using their approved instruments (sphygmomanometer, stethoscope, pulse oximeter, thermometer), and recording and interpreting them accurately and professionally within the patient's clinical record. B2. Applying CPR skills according to the updated AHA protocol, using an Automated External Defibrillator (AED), and performing the Heimlich maneuver for choking cases. B3. Practicing basic infection-control procedures (proper hand washing, wearing Personal Protective Equipment (PPE), safe disposal of sharp medical waste), and applying appropriate clinical isolation techniques. B4. Applying first aid for common emergencies in the physical therapy environment (falls, muscle spasm, fainting, epileptic seizures, allergic reactions), and mastering fracture splinting, bleeding control, and wound dressing.	
Teaching Methods	In-person instruction (scientific films and videos, laboratories, summer and professional training, and graduation projects); scientific visits and practical training in hospitals by specialized medical staff.
Assessment Methods	Daily tests, semester exams, final exams, weekly reports within the course, seminars within courses, discussions and conversations during class.

C. Affective and Value-Based Objectives

C1. Developing a sense of humane and professional responsibility toward the patient in emergency situations, and instilling calmness and sound judgment under pressure as essential traits of a competent healthcare practitioner. C2. Strengthening commitment to the principles of clinical safety and Patient Safety, and recognizing that negligence in applying infection-control procedures or first aid is an ethical and legal responsibility. C3. Instilling values of respect, empathy, and compassion when dealing with injured patients or emergency situations, and raising awareness of the psychological impact of accidents on the patient and their family. C4. Encouraging a spirit of constant readiness and immediate initiative in emergency situations, and establishing a culture of safety and prevention as a shared responsibility of all healthcare team members.	
Teaching Methods	(In-person lectures), summer and professional training and graduation projects, and field visits and life-saving practical training for clinical subjects.

Assessment Methods	Daily, semester, and final examinations; submission of weekly reports and patient-related seminars and follow-up reports on clinical patient cases, along with practical discussions during the practical lesson in the hospital.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Developing effective communication skills with the patient, family, and healthcare team in both emergency and routine situations, and the ability to convey critical clinical information clearly and calmly under pressure.

D2. Acquiring skills for documenting nursing care and first aid provided within the patient's medical record according to approved professional standards, and building the habit of immediate and accurate recording of procedures.

D3. Refining rapid decision-making and prioritization skills in multiple emergency situations (Triage), and strengthening the ability to work efficiently under time pressure and psychological stress.

D4. Preparing the student for effective integration into the multidisciplinary healthcare team from the first year, and building early professional awareness that mastering the fundamentals of nursing and first aid is a prerequisite for safe practice across all physical therapy specialties.

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	2 theory + 3 practical	Knowledge & Application	Introduction: Definition of first aid, importance of first aid, golden rules of first aid, scope and concept of emergency.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
2nd	2 theory + 3 practical	Knowledge & Application	First Aid Emergencies – Burns & Scalds: Causes, degrees of burns, first aid treatment, general treatment.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
3rd	2 theory + 3 practical	Knowledge & Application	First Aid Emergencies – Poisoning: Classification (irritants, acid, alkali, narcotics), signs and symptoms, first aid treatment, general treatment.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
4th	2 theory + 3 practical	Knowledge & Application	First Aid Emergencies – Trauma due to Foreign Body Intrusion: Eye, ear, nose, throat, stomach, and lungs.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
5th	2 theory + 3 practical	Knowledge & Application	First Aid Emergencies – Bites: First aid, signs, symptoms, and treatment; dog bite (rabies); snake bite (neurotoxin, bleeding diathesis).	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
6th	2 theory + 3 practical	Knowledge & Application	Skeletal Injuries: Definition and types of fractures of various body parts; causes, signs, and symptoms; rules of treatment; transportation of patients with fractures and spinal cord injuries; first aid measures for joint dislocation; treatment of muscle injuries.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
7th	2 theory + 3 practical	Knowledge & Application	Respiratory Emergencies – Asphyxia: Etiology, signs & symptoms, rules of treatment.	Whiteboard, PowerPoint	Reports, oral and written

				slides, practical exercises	theoretical exams
8th	2 theory + 3 practical	Knowledge & Application	Respiratory Emergencies – Drowning: Definition and management.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
9th	2 theory + 3 practical	Knowledge & Application	Respiratory Emergencies – Artificial Respiration: Types and techniques.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
10th	2 theory + 3 practical	Knowledge & Application	Wounds and Hemorrhage – Wounds: Classification, management.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
11th	2 theory + 3 practical	Knowledge & Application	Wounds and Hemorrhage – Hemorrhages: Classification, signs and symptoms, rules for treatment of hemorrhage.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
12th	2 theory + 3 practical	Knowledge & Application	Wounds and Hemorrhage: Treatment of hemorrhage from special areas (scalp, mouth, nose, ear, palm, and various veins); internal hemorrhages – visible and concealed.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
13th	2 theory + 3 practical	Knowledge & Application	Shock and Unconsciousness: Definition, types of shock, common causes of shock, signs and symptoms of shock (assessment of established shock), general and special treatment of established shock.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
14th	2 theory + 3 practical	Knowledge & Application	Transportation of the Injured: 1. Methods of transportation (single helper, hand seat, stretcher, wheeled transport/ambulance); 2. Precautions taken (blanket lift, air and sea travel).	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
15th	2 theory + 3 practical	Knowledge & Application	Revision	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Potter, P. A., Perry, A. G., Hall, A., & Stockert, P. A. (2021). Fundamentals of Nursing (10th ed.). Elsevier.
Main References (Sources)	American Red Cross. (2017). First Aid/CPR/AED Participant's Manual. StayWell.
Recommended Books and References	Journal of Nursing Education
Electronic References and Websites	American Red Cross – First Aid Resources

Level One

PTT104 — Introduction to Physical Therapy

1. Course Name	Introduction to Physical Therapy
2. Course Code	PTT104
3. Semester / Year	First Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person theoretical and practical lectures
6. Credit Hours / Units	2 theory hours + 4 practical hours / 4 units
7. Course Coordinator Name	Assist. Prof. Mazin Nadheer Farhan

8. Course Objectives

This course provides Level 1 students in the Department of Physical Therapy Techniques with a comprehensive foundation in the field of physical therapy, including the historical development of the profession from ancient civilizations to the modern era, familiarity with basic clinical terminology, understanding of the scope of physical therapy practice, and the roles and responsibilities undertaken by the physiotherapist within multidisciplinary healthcare teams. The course also covers the four levels of healthcare, professional ethics, principles of clinical assessment, common treatment methods, and applications of physical therapy across various medical conditions.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Defining physical therapy and tracing its historical development from ancient times to the present. A2. Identifying and defining the clinical specialties within physical therapy practice. A3. Explaining the team-based approach in rehabilitation and identifying the five core rehabilitation professions. A4. Distinguishing between the four levels of healthcare and clarifying the physiotherapist's role in each.	
Teaching Methods	Interactive whiteboard, PowerPoint slides, scientific films and videos, classroom discussions, field visits.
Assessment Methods	Daily tests, semester tests, final written and oral examinations, weekly reports.

B. Skill Objectives Specific to the Course

B1. Using basic physical therapy terminology accurately in both academic and clinical contexts. B2. Applying the principles of basic clinical assessment and preparing SOAP notes.

B3. Identifying common treatment modalities (exercise, manual therapy, electrotherapy) and classifying their uses. B4. Describing physical therapy applications in orthopedic, neurological, and cardiopulmonary conditions.	
Teaching Methods	Interactive whiteboard, PowerPoint slides, scientific films and videos, classroom discussions, field visits.
Assessment Methods	Daily tests, semester tests, final written and oral examinations, weekly reports.

C. Affective and Value-Based Objectives

C1. Appreciating the importance of professional ethics and patient rights in physical therapy practice. C2. Recognizing the physiotherapist's active role within the multidisciplinary healthcare team. C3. Recognizing the need for continuous learning and keeping pace with professional developments globally. C4. Strengthening professional belonging and awareness of the current status and future of physical therapy in Iraq.	
Teaching Methods	(In-person lectures), field visits, and practical training in hospitals by specialized medical staff.
Assessment Methods	Daily, semester, and final examinations; field-visit follow-up reports; practical discussions.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Effective communication skills with stakeholders in physical therapy and healthcare.
D2. Teamwork skills within a multidisciplinary healthcare environment.
D3. Skills in accessing and applying scientific evidence.
D4. Computer and Internet skills for researching medical and professional sources.

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	2 theory + 4 practical	Knowledge & Application	History of Physiotherapy: Definition of physiotherapy. Ancient origins (China, Egypt, Greece). Roman period. Middle Ages. 19th century milestones: Per Henrik Ling and medical gymnastics (1813). Origin of the term 'Physiotherapy' (1851). Early 20th century development.	Whiteboard, PowerPoint slides, educational videos	Reports, oral and written theoretical exams
2nd	2 theory + 4 practical	Knowledge & Application	Basic Terminology – Part 1: Clinical Specialties & MSK System: Neurological, Orthopedic, Sports,	Whiteboard, PowerPoint	Reports, oral and written

			Cardiopulmonary, Geriatric, and Pediatric physiotherapy. Basic musculoskeletal terminology: bones, joints, ligaments, tendons, cartilage, muscles. Sprain vs. strain.	slides, written exercises	theoretical exams
3rd	2 theory + 4 practical	Knowledge & Application	Basic Terminology – Part 2: Gait, Balance, and Joint Kinematics: Motor control, gait, balance, instability, weight shifting, gait training. ROM, flexion, extension, abduction, adduction, rotation, proprioception. Axial spinal deformities: scoliosis, kyphosis, lordosis.	Whiteboard, PowerPoint slides, anatomical models	Reports, oral and written theoretical exams
4th	2 theory + 4 practical	Knowledge & Application	Basic Terminology – Part 3: Rehabilitation and Treatment Modalities: Rehabilitation, rehab protocol, manual therapy, exercise therapy, electrotherapy, hydrotherapy, traction. Rehabilitation goals. Pain assessment terminology: acute, chronic, referred pain.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
5th	2 theory + 4 practical	Knowledge & Application	Team Approach and Rehabilitation Services: Definition and benefits of the team approach. Multidisciplinary vs. interdisciplinary vs. transdisciplinary teams. The rehabilitation program: definition and components. Five core rehabilitation professions: physical & rehabilitation medicine, nursing, physiotherapy, prosthetics & orthotics, occupational therapy.	Whiteboard, PowerPoint slides, classroom discussions	Reports, oral and written theoretical exams
6th	2 theory + 4 practical	Knowledge & Application	Levels of Healthcare and Physiotherapist's Role at Each Level: The four levels: Primary, Secondary, Tertiary, and Quaternary. Characteristics and services at each level. Physiotherapist's specific role and responsibilities. Examples of PT interventions across levels.	Whiteboard, PowerPoint slides, clinical examples	Reports, oral and written theoretical exams
7th	2 theory + 4 practical	Knowledge & Application	Physiotherapist Roles in Clinical Practice: Member of healthcare teams. Prevention and management of non-communicable diseases. Infection control protocols. Maternal and child health. Patient advocates. Educators and mentors. Screeners. Lifestyle conditions management.	Whiteboard, PowerPoint slides, case studies	Reports, oral and written theoretical exams
8th	2 theory + 4 practical	Knowledge & Application	Midterm Review and Assessment: Review of Weeks 1–7 content. Discussion of key concepts and terminology. Midterm examination covering: history of physiotherapy, basic terminology, team approach, levels of healthcare, and physiotherapist roles.	Whiteboard, comprehensive review	Written semester examination
9th	2 theory + 4 practical	Knowledge & Application	Scope of Practice and Professional Ethics: Definition of scope of practice. Legal and professional boundaries in physiotherapy. Code of ethics and professional conduct. Patient rights and	Whiteboard, PowerPoint slides, ethical case discussions	Reports, oral and written theoretical exams

			informed consent. Confidentiality and documentation. Ethical dilemmas in clinical practice.		
10th	2 theory + 4 practical	Knowledge & Application	Physiotherapy Assessment and Clinical Reasoning: Introduction to patient assessment. Subjective and objective assessment (SOAP notes). Clinical reasoning and decision-making. Physical examination: observation, palpation, ROM testing, muscle strength testing. Documentation and record-keeping.	Whiteboard, PowerPoint slides, practical SOAP exercises	Reports, oral and written theoretical exams
11th	2 theory + 4 practical	Knowledge & Application	Physiotherapy Treatment – Exercise and Manual Therapy: Principles of therapeutic exercise: strengthening, stretching, endurance, coordination. Types: active, passive, resisted. Manual therapy: soft tissue mobilization, joint mobilization, manipulation. Indications and contraindications.	Whiteboard, PowerPoint slides, laboratory exercises	Reports, oral and written theoretical exams
12th	2 theory + 4 practical	Knowledge & Application	Electrotherapy and Physical Agents: Introduction to physical agents and electrotherapy. Thermal agents: heat therapy (superficial and deep), cryotherapy. Electrical stimulation: TENS, NMES, interferential therapy. Ultrasound therapy. Phototherapy: laser and infrared. Safety and contraindications.	Whiteboard, PowerPoint slides, therapeutic equipment demonstration	Reports, oral and written theoretical exams
13th	2 theory + 4 practical	Knowledge & Application	Physiotherapy in Specific Medical Conditions: PT in orthopedic conditions: fractures, joint replacements, soft tissue injuries. PT in neurological conditions: stroke, spinal cord injury, Parkinson's disease. PT in cardiopulmonary conditions: post-cardiac surgery, COPD, asthma. PT in pediatrics and geriatrics.	Whiteboard, PowerPoint slides, clinical case studies	Reports, oral and written theoretical exams
14th	2 theory + 4 practical	Knowledge & Application	Physiotherapy Settings, Career Paths, and Professional Development: Practice settings: hospitals, outpatient clinics, community settings, schools, sports facilities, home care. Career pathways and specializations. CPD. Evidence-based practice. Role of professional associations.	Whiteboard, PowerPoint slides, meetings with specialists	Reports, oral and written theoretical exams
15th	2 theory + 4 practical	Knowledge & Application	Future of Physiotherapy and Final Review: Emerging trends: telehealth, robotic-assisted therapy, virtual reality rehabilitation, AI applications. Global perspectives. Physiotherapy in Iraq: current status and future development. Comprehensive course review. Final examination preparation.	Whiteboard, PowerPoint slides, open discussion	Comprehensive written and oral examinations

11. Course Assessment

20% Midterm exam; 10% Practical activities / classroom activities; 10% Attendance and participation; 60% Final exam.

12. Learning and Teaching Resources	
Required Textbooks	Physiotherapy Lecture Notes – College of Health and Medical Techniques, Al-Dour, NTU (2023–2025).
Main References (Sources)	Kisner, C., & Colby, L.A. (2017). Therapeutic Exercise: Foundations and Techniques. F.A. Davis Company. Prentice, W.E. (2014). Rehabilitation Techniques for Sports Medicine and Athletic Training. McGraw-Hill.
Recommended Books and References	Porter, S. (Ed.). (2013). Tidy's Physiotherapy (15th ed.). Churchill Livingstone. Cameron, M.H. (2012). Physical Agents in Rehabilitation. Elsevier Saunders.
Electronic References and Websites	World Confederation for Physical Therapy (WCPT) – wcpt.org; National Center for Biotechnology Information (NCBI) – ncbi.nlm.nih.gov

Level One

PTT105 — Principles of Human Physiology

1. Course Name	Principles of Human Physiology
2. Course Code	PTT105
3. Semester / Year	First Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	Theory hours + 60 practical hours / 4 units
7. Course Coordinator Name	Assist. Prof. Dr. Abeer Talib Abdul-Qader

8. Course Objectives

Acquiring the skill in addition to the information related to the disease condition.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Understanding normal function: learning how the different body systems function under normal conditions. A2. Physiological mechanisms: grasping the mechanisms of physiological regulation and how the body's internal environment is controlled. A3. Response to stress: understanding how the body adapts to various stressors such as trauma, infection, and environmental changes. A4. Effect of disease: learning the physiological changes that occur during disease or injury and how they affect body systems.	
Teaching Methods	In-person instruction (scientific films and videos, laboratories, summer and professional training, and graduation projects); scientific visits and practical training in hospitals by specialized medical staff.
Assessment Methods	Daily tests, semester exams, final exams, weekly reports within the course, seminars within courses, discussions and conversations during class.

B. Skill Objectives Specific to the Course

B1. Assessment skills: developing the ability to conduct an accurate physiological assessment of patients using various assessment tools and equipment.

B2. Applying measurements: the ability to interpret physiological data and use it in treatment planning. B3. Intervention skills: the ability to design and implement physical therapy treatment plans based on an understanding of the physiology of different conditions. B4. Therapeutic responses: learning how to modify physical therapy interventions based on the patient's physiological responses.	
Teaching Methods	In-person instruction (scientific films and videos, laboratories, summer and professional training, and graduation projects); scientific visits and practical training in hospitals by specialized medical staff.
Assessment Methods	Daily tests, semester exams, final exams, weekly reports within the course, seminars within courses, discussions and conversations during class.

C. Affective and Value-Based Objectives

C1. Commitment to quality healthcare: strengthening a sense of responsibility toward providing the best possible care while preserving patients' physiological safety. C2. Empathy and understanding: developing empathy and the ability to understand the human experiences and personal challenges faced by patients. C3. Academic and professional integrity: forming ethical habits in learning and practice that protect the credibility of the profession. C4. Respect for self and others: instilling respect for oneself and for humanity in all interactions with patients and professional colleagues.	
Teaching Methods	(In-person lectures), summer and professional training and graduation projects, and field visits and life-saving practical training for clinical subjects.
Assessment Methods	Daily, semester, and final examinations; submission of weekly reports and patient-related seminars and follow-up reports on clinical patient cases, along with practical discussions during the practical lesson in the hospital.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Teamwork and collaboration skills. D2. Computer typing skills. D3. English-language communication skills. D4. Work-endurance and problem-solving skills.

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	2 theory + 4 practical	Knowledge & Application	Reproductive System: 1. Sex determination and development, puberty. 2. Male sex hormones and their functions, spermatogenesis.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
2nd	2 theory + 4 practical	Knowledge & Application	Reproductive System: 3. Female sex hormones and functions, menstrual cycle, ovulation and contraceptives. 4. Pregnancy, functions of placenta and lactation.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
3rd	2 theory + 4 practical	Knowledge & Application	Excretory System: 1. Gross and minute structure of the kidney and features of renal circulation. 2. Mechanism of urine formation, GFR, and tubular function.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
4th	2 theory + 4 practical	Knowledge & Application	Excretory System: 3. Renal function. 4. Physiology of micturition.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
5th	2 theory + 4 practical	Knowledge & Application	Muscle and Nerve: 1. Structure of neurons, membrane potential, and generation of action potential. 2. Nerve impulse conduction, saltatory conduction.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
6th	2 theory + 4 practical	Knowledge & Application	Muscle and Nerve: 3. Neuromuscular junction and drugs acting on it – myasthenia. 4. Degeneration and regeneration in peripheral nerves – Wallerian degeneration of electrotonus and Pflüger's Law.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
7th	2 theory + 4 practical	Knowledge & Application	Muscle: 1. Types of muscle and their gross structure, stimulus chronaxie, strength-duration curve. 2. Structure of the sarcomere – basis of muscle contraction, Starling's Law, and changes during muscle contraction.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
8th	2 theory + 4 practical	Knowledge & Application	Muscle: 3. Electrical – biphasic and monophasic action potentials. 4. Chemical, thermal, and physical changes; isometric and isotonic contraction.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
9th	2 theory + 4 practical	Knowledge & Application	Muscle: 5. Motor units and their properties, clonus, tetanus, all-or-none law, beneficial effect. 6. Nature of voluntary contraction, fatigue.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
10th	2 theory + 4 practical	Knowledge & Application	Nervous System: 1. Types and properties of receptors, types of sensations. 2. Structure of synapses, reflex and its properties, occlusion, summation, subliminal fringe, etc.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
11th	2 theory + 4 practical	Knowledge & Application	Nervous System: 3. Tracts of the spinal cord. 4. Descending, pyramidal, and extrapyramidal tracts.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams

12th	2 theory + 4 practical	Knowledge & Application	Nervous System: 5. Hemi-section and complete section of the spinal cord; upper and lower motor neuron paralysis. 6. Cerebral cortex – areas and functions, EEG.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
13th	2 theory + 4 practical	Knowledge & Application	Nervous System: 7. Structure, connections, and functions of the cerebellum. 8. Connections and functions of the basal ganglia and thalamus.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
14th	2 theory + 4 practical	Knowledge & Application	Nervous System: 9. Reticular formation, tone, posture, and equilibrium. 10. Autonomic nervous system.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
15th	2 theory + 4 practical	Knowledge & Application	Revision	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Guyton, A. C., & Hall, J. E. (2021). Guyton and Hall Textbook of Medical Physiology (14th ed.). Elsevier.
Main References (Sources)	Costanzo, L. S. (2018). Physiology (6th ed.). Elsevier.
Recommended Books and References	American Journal of Physiology; Journal of Applied Physiology; Physiological Reviews
Electronic References and Websites	American Physiological Society (APS)

Level One

PTT106 — Human Physiology

1. Course Name	Human Physiology
2. Course Code	PTT106
3. Semester / Year	Second Semester 2025/2026
4. Date of Preparation	15/9/2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	30 theory hours + 60 practical hours / 4 units
7. Course Coordinator Name	Assist. Prof. Dr. Abeer Talib Abdul-Qader

8. Course Objectives

Acquiring the skill in addition to the information related to the disease condition.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Principles of physical therapy: applying physiological knowledge to physical therapy and rehabilitation techniques. A2. Functional assessment: learning how to assess body functions and develop physical therapy plans based on that assessment. A3. Understanding drug interactions: knowledge of how medications affect body physiology and how they can influence physical therapy outcomes. A4. Evidence-based learning: conducting research and interpreting literature to stay current with the latest principles and practices in physiology.	
Teaching Methods	In-person instruction (scientific films and videos, laboratories, summer and professional training, and graduation projects); scientific visits and practical training in hospitals by specialized medical staff.
Assessment Methods	Daily tests, semester exams, final exams, weekly reports within the course, seminars within courses, discussions and conversations during class.

B. Skill Objectives Specific to the Course

B1. Functional training: the ability to use function-enhancement and recovery techniques based on physiological knowledge.

B2. Professional communication: developing the ability to explain physiological concepts clearly and professionally to other healthcare team members and to patients. B3. Research skills: the ability to participate in scientific research activities to develop a deeper understanding of physiology and its applications in physical therapy. B4. Technology-use skills: learning to use modern technologies in assessing physiological functions and implementing treatments.	
Teaching Methods	In-person instruction (scientific films and videos, laboratories, summer and professional training, and graduation projects); scientific visits and practical training in hospitals by specialized medical staff.
Assessment Methods	Daily tests, semester exams, final exams, weekly reports within the course, seminars within courses, discussions and conversations during class.

C. Affective and Value-Based Objectives

C1. Continuous professional development: encouraging the motivation for continuous learning and diligence in staying informed of the latest developments in medical physiology. C2. Teamwork: encouraging a spirit of teamwork in a multidisciplinary context, which helps achieve better patient outcomes. C3. Flexibility: developing the ability to adapt to professional challenges and changes in patients' health conditions. C4. Sense of initiative: instilling self-confidence and the courage to take appropriate action at the right time.	
Teaching Methods	(In-person lectures), summer and professional training and graduation projects, and field visits and life-saving practical training for clinical subjects.
Assessment Methods	Daily, semester, and final examinations; submission of weekly reports and patient-related seminars and follow-up reports on clinical patient cases, along with practical discussions during the practical lesson in the hospital.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Teamwork and collaboration skills.
D2. Computer typing skills.
D3. English-language communication skills.
D4. Work-endurance and problem-solving skills.

10. Course Structure					
Week	**Hours**	**Learning Outcomes**	**Unit / Topic Name**	**Teaching Method**	**Assessment Method**
1st	2 theory + 4 practical	Knowledge & Application	Reproductive System: 1. Sex determination and development, puberty. 2. Male sex hormones and their functions, spermatogenesis.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
2nd	2 theory + 4 practical	Knowledge & Application	Reproductive System: 3. Female sex hormones and functions, menstrual cycle, ovulation and contraceptives. 4. Pregnancy, functions of placenta and lactation.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
3rd	2 theory + 4 practical	Knowledge & Application	Excretory System: 1. Gross and minute structure of the kidney and features of renal circulation. 2. Mechanism of urine formation, GFR, and tubular function.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
4th	2 theory + 4 practical	Knowledge & Application	Excretory System: 3. Renal function. 4. Physiology of micturition.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
5th	2 theory + 4 practical	Knowledge & Application	Muscle and Nerve: 1. Structure of neurons, membrane potential, and generation of action potential. 2. Nerve impulse conduction, saltatory conduction.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
6th	2 theory + 4 practical	Knowledge & Application	Muscle and Nerve: 3. Neuromuscular junction and drugs acting on it – myasthenia. 4. Degeneration and regeneration in peripheral nerves – Wallerian degeneration of electrotonus and Pflüger's Law.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
7th	2 theory + 4 practical	Knowledge & Application	Muscle: 1. Types of muscle and their gross structure, stimulus chronaxie, strength-duration curve. 2. Structure of the sarcomere – basis of muscle contraction, Starling's Law, and changes during muscle contraction.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
8th	2 theory + 4 practical	Knowledge & Application	Muscle: 3. Electrical – biphasic and monophasic action potentials. 4. Chemical, thermal, and physical changes; isometric and isotonic contraction.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
9th	2 theory + 4 practical	Knowledge & Application	Muscle: 5. Motor units and their properties, clonus, tetanus, all-or-none law, beneficial effect. 6. Nature of voluntary contraction, fatigue.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
10th	2 theory + 4 practical	Knowledge & Application	Nervous System: 1. Types and properties of receptors, types of sensations. 2. Structure of synapses, reflex and its properties, occlusion, summation, subliminal fringe, etc.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
11th	2 theory + 4 practical	Knowledge & Application	Nervous System: 3. Tracts of the spinal cord. 4. Descending, pyramidal, and extrapyramidal tracts.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams

12th	2 theory + 4 practical	Knowledge & Application	Nervous System: 5. Hemi-section and complete section of the spinal cord; upper and lower motor neuron paralysis. 6. Cerebral cortex – areas and functions, EEG.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
13th	2 theory + 4 practical	Knowledge & Application	Nervous System: 7. Structure, connections, and functions of the cerebellum. 8. Connections and functions of the basal ganglia and thalamus.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
14th	2 theory + 4 practical	Knowledge & Application	Nervous System: 9. Reticular formation, tone, posture, and equilibrium. 10. Autonomic nervous system.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
15th	2 theory + 4 practical	Knowledge & Application	Revision	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Guyton, A. C., & Hall, J. E. (2021). Guyton and Hall Textbook of Medical Physiology (14th ed.). Elsevier.
Main References (Sources)	Costanzo, L. S. (2018). Physiology (6th ed.). Elsevier.
Recommended Books and References	American Journal of Physiology; Journal of Applied Physiology; Physiological Reviews
Electronic References and Websites	PubMed – Human Physiology Research

Level One

PTT107 — Basics of Anatomy

1. Course Name	Basics of Anatomy
2. Course Code	PTT107
3. Semester / Year	Second Semester 2025/2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	30 theory hours + 60 practical hours / 4 units
7. Course Coordinator Name	Dr. Asaad Taha Hamid

8. Course Objectives

Learning the importance of anatomy and the location of organs as relevant to the student's field of specialization.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Acquiring knowledge of the structure of the human body in general. A2. Knowing anatomical positions, terminology, and planes. A3. Types of tissue. A4. Understanding the histological characteristics of different organs.	
Teaching Methods	In-person instruction (scientific films and videos, laboratories, summer and professional training, and graduation projects); scientific visits and practical training in hospitals by specialized medical staff.
Assessment Methods	Daily tests, semester exams, final exams, weekly reports within the course, seminars within courses, discussions and conversations during class.

B. Skill Objectives Specific to the Course

B1. The general aim of teaching the basic sciences for the human anatomy branch is to provide important scientific knowledge involving the structural composition of the body at the level of systems, organs, and cells.

B2. Raising students' ability to connect anatomical facts with clinical applications using X-ray images, ultrasound, MRI, and histological slides. B3. Applying professional and ethical education for students.	
Teaching Methods	In-person instruction (scientific films and videos, laboratories, summer and professional training, and graduation projects); scientific visits and practical training in hospitals by specialized medical staff.
Assessment Methods	Daily tests, semester exams, final exams, weekly reports within the course, seminars within courses, discussions and conversations during class.

C. Affective and Value-Based Objectives

C1. The ability to communicate effectively with stakeholders in the field of specialization. C2. Recognizing the need for, and the ability to engage in, lifelong learning. C3. Awareness of contemporary issues in the field of specialization. C4. The broad education necessary to understand global solutions and economic, environmental, and social problems in order to supply health institutions, according to their needs, with specializations in rehabilitation and patient treatment in specialized hospitals and outpatient/consultative clinics.	
Teaching Methods	(In-person lectures), summer and professional training and graduation projects, and field visits and life-saving practical training for clinical subjects.
Assessment Methods	Daily, semester, and final examinations; submission of weekly reports and patient-related seminars and follow-up reports on clinical patient cases, along with practical discussions during the practical lesson in the hospital.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Teamwork and collaboration skills.
D2. Computer typing skills.
D3. English-language communication skills.
D4. Work-endurance and problem-solving skills.

10. Course Structure					
Week	**Hours**	**Learning Outcomes**	**Unit / Topic Name**	**Teaching Method**	**Assessment Method**

1st	2 theory + 4 practical	Knowledge & Application	Introduction: Define Anatomy and mention its sub-divisions. Name regions, cavities, and systems of the body.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
2nd	2 theory + 4 practical	Knowledge & Application	Histology: General histology, study of the basic tissues of the body (classify and describe the microscopic structure of tissue types) such as: cell, epithelium, connective tissue, cartilage, bone, muscular tissue, nerve tissue – TS & LS, circulatory system (large-sized artery, medium-sized artery, large-sized vein), lymphoid tissue, skin and its appendages.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
3rd	2 theory + 4 practical	Knowledge & Application	Osteology: Anatomical positions of the body, axes, planes, common anatomical terminology (grooves, tuberosity, trochanters, etc.); connective tissue classification.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
4th	2 theory + 4 practical	Knowledge & Application	Osteology: Bone composition and functions; classification of types according to morphology and development; growth and repair; structure of long bone; vertebral column; types of vertebrae; bones of the extremities and body landmarks.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
5th	2 theory + 4 practical	Knowledge & Application	Arthrology: Definitions, classification of joints, construction of joints, motions of joints, structure of fibrous and cartilaginous joints.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
6th	2 theory + 4 practical	Knowledge & Application	Arthrology: Blood supply and nerve supply of joints; articulations – articular surfaces, types of joints, motions of the upper and lower extremities, trunk, and head.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
7th	2 theory + 4 practical	Knowledge & Application	Myology: Types of muscle tissue; muscles of the upper extremity, lower extremity, trunk, eye, face, etc. – origin, insertion, nerve supply, and action (in detail).	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
8th	2 theory + 4 practical	Knowledge & Application	Other Systems: Cardiovascular system; blood, lymph, tissue fluid – characteristics, composition, and function; the heart – main arteries, veins, capillaries; lymph circulation.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
9th	2 theory + 4 practical	Knowledge & Application	Upper Extremity	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
10th	2 theory + 4 practical	Knowledge & Application	Pectoral Region: Features of the pectoral region; the sternum, clavicle, scapula, and humerus; main features of the bones of the shoulder girdle; parts, borders, and surfaces of the sternum; ends, surfaces, curvatures, and features of the clavicle; borders, angles, surfaces, processes, fossae, and features of the scapula.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams

11th	2 theory + 4 practical	Knowledge & Application	Scapular Region: Main features of the muscles in the scapular region; the layered arrangement of the muscles of the back; muscles of the scapular region – origin, insertion, nerve supply, and actions; bony landmarks of the scapula, humerus, and clavicle.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
12th	2 theory + 4 practical	Knowledge & Application	Shoulder Girdle: Main features of the joints of the shoulder girdle; the joints of the shoulder girdle; articular surfaces, ligaments, and movements of the sternoclavicular and acromioclavicular joints.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
13th	2 theory + 4 practical	Knowledge & Application	Shoulder Girdle: Type of joints; movements of the scapula; chief muscles producing these movements; correlation of scapular movements; functional roles of the articular disc, costoclavicular ligament of the sternoclavicular joint, and coracoclavicular ligament.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
14th	2 theory + 4 practical	Knowledge & Application	Shoulder Joint: Type, articular surfaces, and ligaments of the shoulder joint.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
15th	2 theory + 4 practical	Knowledge & Application	Movements of the shoulder joint; chief muscles producing these movements; blood supply and nerve supply of this joint.	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Moore, K. L., Dalley, A. F., & Agur, A. M. R. (2018). Clinically Oriented Anatomy (8th ed.). Wolters Kluwer.
Main References (Sources)	Snell, R. S. (2011). Clinical Anatomy by Systems. Lippincott Williams & Wilkins.
Recommended Books and References	Journal of Anatomy
Electronic References and Websites	Visible Body – Anatomy Learning Tools

Level One

PTT108 — Clinical Biochemistry

1. Course Name	Clinical Biochemistry
2. Course Code	PTT108
3. Semester / Year	First Semester 2025/2026
4. Date of Preparation	15/9/2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	Theory hours + 60 practical hours / 4 units
7. Course Coordinator Name	Assist. Prof. Dr. Ahmed Mousa Khalaf

8. Course Objectives

Acquiring the skill in addition to the information related to the disease condition.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Understanding the chemical composition of the body: identifying the basic chemical components such as proteins, fats, carbohydrates, and vitamins and their role in maintaining health. A2. Clinical analyses: learning how to perform and interpret various clinical chemistry tests that help diagnose diseases and monitor the course of treatment. A3. The relationship between chemistry and physical therapy: understanding how chemical changes in the body can affect functional performance and healing, and how physical therapy can interact with these processes. A4. Integrating chemical knowledge with therapeutic practice: using knowledge of clinical chemistry to improve physical therapy techniques and develop treatment programs tailored to each patient.	
Teaching Methods	In-person instruction (scientific films and videos, laboratories, summer and professional training, and graduation projects); scientific visits and practical training in hospitals by specialized medical staff.
Assessment Methods	Daily tests, semester exams, final exams, weekly reports within the course, seminars within courses, discussions and conversations during class.

B. Skill Objectives Specific to the Course

B1. Sample-analysis skills: learning how to correctly collect and prepare biological samples for chemical analysis. B2. Operating laboratory instruments: acquiring the ability to handle laboratory equipment and techniques used in clinical chemistry, such as spectrophotometers and blood chemistry analyzers. B3. Laboratory technique skills: developing the ability to perform biochemical tests and interpret their results accurately. B4. Laboratory safety skills: understanding and applying biological and chemical safety rules within the laboratory.	
Teaching Methods	In-person instruction (scientific films and videos, laboratories, summer and professional training, and graduation projects); scientific visits and practical training in hospitals by specialized medical staff.
Assessment Methods	Daily tests, semester exams, final exams, weekly reports within the course, seminars within courses, discussions and conversations during class.

C. Affective and Value-Based Objectives

C1. Respect for biological and human diversity: appreciating individual differences among patients and understanding that biochemical variations require an individualized approach to treatment. C2. Professional responsibility: developing a sense of responsibility as a healthcare provider and attention to every detail in the treatment process. C3. Empathy and compassion: strengthening empathy toward patients and developing the ability to communicate emotionally and provide psychological support. C4. Commitment to ethical standards: adhering to ethical rules and a code of conduct to avoid harm and ensure the highest standards of patient care.	
Teaching Methods	(In-person lectures), summer and professional training and graduation projects, and field visits and life-saving practical training for clinical subjects.
Assessment Methods	Daily, semester, and final examinations; submission of weekly reports and patient-related seminars and follow-up reports on clinical patient cases, along with practical discussions during the practical lesson in the hospital.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Teamwork and collaboration skills.

D2. Computer typing skills.
D3. English-language communication skills.
D4. Work-endurance and problem-solving skills.

10. Course Structure					
Week	**Hours**	**Learning Outcomes**	**Unit / Topic Name**	**Teaching Method**	**Assessment Method**
1st	2 theory + 4 practical	Knowledge & Application	Cell	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
2nd	2 theory + 4 practical	Knowledge & Application	Body Fluids	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
3rd	2 theory + 4 practical	Knowledge & Application	Biomolecules: Amino Acids, Peptides & Proteins	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
4th	2 theory + 4 practical	Knowledge & Application	Biomolecules: Amino Acids, Peptides & Proteins (cont.)	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
5th	2 theory + 4 practical	Knowledge & Application	Enzymes	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
6th	2 theory + 4 practical	Knowledge & Application	Carbohydrates	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
7th	2 theory + 4 practical	Knowledge & Application	Lipids	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
8th	2 theory + 4 practical	Knowledge & Application	Lipids (cont.)	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
9th	2 theory + 4 practical	Knowledge & Application	Nucleic Acids	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
10th	2 theory + 4 practical	Knowledge & Application	Nutritional Biochemistry: Minerals & Trace Elements	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
11th	2 theory + 4 practical	Knowledge & Application	Nutritional Biochemistry: Minerals & Trace Elements (cont.)	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams

12th	2 theory + 4 practical	Knowledge & Application	Vitamins	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
13th	2 theory + 4 practical	Knowledge & Application	Nutrition	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
14th	2 theory + 4 practical	Knowledge & Application	Molecular Biology	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
15th	2 theory + 4 practical	Knowledge & Application	Revision	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Burtis, C. A., Ashwood, E. R., & Bruns, D. E. (2017). Tietz Fundamentals of Clinical Chemistry and Molecular Diagnostics (8th ed.). Elsevier.
Main References (Sources)	Mayne, P. D. (2010). Clinical Chemistry in Diagnosis and Treatment (7th ed.). CRC Press.
Recommended Books and References	Clinical Biochemistry (Journal)
Electronic References and Websites	PubMed – Clinical Biochemistry Research

Level One

PTT109 — Medical Physics

1. Course Name	Medical Physics
2. Course Code	PTT109
3. Semester / Year	Second Semester 2025/2026
4. Date of Preparation	15/9/2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	Theory hours + 60 practical hours / 4 units
7. Course Coordinator Name	Dr. Mohammed Ajami Abed

8. Course Objectives

Acquiring the skill in addition to the information related to the relationship between physics and movement and its connection to physical therapy.

9. Teaching and Learning Strategies

A. Knowledge Objectives

Goals include understanding how physical laws are applied to the human body and using physical treatments to improve health, including: A1. Understanding the scientific foundations and physical principles that form the basis of physical therapy treatments. A2. Learning how to use medical machines and devices that rely on physics in physical therapy. A3. Inferring how movement, forces, and pressure affect the human body. A4. Identifying how heat, cold, ultrasound, and electrical therapy are used in managing patient cases.	
Teaching Methods	In-person instruction (scientific films and videos, laboratories, summer and professional training, and graduation projects); scientific visits and practical training in hospitals by specialized medical staff.
Assessment Methods	Daily tests, semester exams, final exams, weekly reports within the course, seminars within courses, discussions and conversations during class.

B. Skill Objectives Specific to the Course

The skill objectives for studying medical physics in the Department of Physical Therapy Techniques aim to

develop a set of practical skills that enhance the student's ability to interact directly with patients and use various tools and technologies. These goals may include: B1. Mastering the use of specialized devices and tools in physical therapy. B2. Applying therapeutic techniques based on physical principles safely and effectively. B3. Developing effective communication skills with patients while providing physical treatments. B4. Assessing individual cases and determining appropriate physical therapy dosages using medical physics.	
Teaching Methods	In-person instruction (scientific films and videos, laboratories, summer and professional training, and graduation projects); scientific visits and practical training in hospitals by specialized medical staff.
Assessment Methods	Daily tests, semester exams, final exams, weekly reports within the course, seminars within courses, discussions and conversations during class.

C. Affective and Value-Based Objectives

C1. Strengthening a sense of professional and ethical responsibility in providing healthcare. C2. Appreciating the importance of precision and attention to detail in therapeutic procedures. C3. Self-development and an inclination toward continuous learning to keep pace with developments in the medical and physical fields. C4. Empathy with patients, understanding their needs, and a desire to improve their quality of life.	
Teaching Methods	(In-person lectures), summer and professional training and graduation projects, and field visits and life-saving practical training for clinical subjects.
Assessment Methods	Daily, semester, and final examinations; submission of weekly reports and patient-related seminars and follow-up reports on clinical patient cases, along with practical discussions during the practical lesson in the hospital.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Teamwork and collaboration skills. D2. Computer typing skills. D3. English-language communication skills. D4. Work-endurance and problem-solving skills.

10. Course Structure					
Week	**Hours**	**Learning Outcomes**	**Unit / Topic Name**	**Teaching Method**	**Assessment Method**
1st	2 theory + 4 practical	Knowledge & Application	Electricity and Magnetism	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
2nd	2 theory + 4 practical	Knowledge & Application	Static Electricity	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
3rd	2 theory + 4 practical	Knowledge & Application	Current Electricity	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
4th	2 theory + 4 practical	Knowledge & Application	Electromagnetism	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
5th	2 theory + 4 practical	Knowledge & Application	Electromechanics	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
6th	2 theory + 4 practical	Knowledge & Application	Classification of Currents	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
7th	2 theory + 4 practical	Knowledge & Application	Medium Frequency Current	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
8th	2 theory + 4 practical	Knowledge & Application	High Frequency Current	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
9th	2 theory + 4 practical	Knowledge & Application	Sound Waves	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
10th	2 theory + 4 practical	Knowledge & Application	Heat	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
11th	2 theory + 4 practical	Knowledge & Application	Electromagnetic Radiation	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
12th	2 theory + 4 practical	Knowledge & Application	Safety in Biomedical Instruments	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
13th	2 theory + 4 practical	Knowledge & Application	Radiation Protection	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams

14th	2 theory + 4 practical	Knowledge & Application	Practical	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
15th	2 theory + 4 practical	Knowledge & Application	Practical	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Hendee, W. R., Ritenour, E. R., & Kanal, E. (2013). Medical Imaging Physics (4th ed.). Wiley.
Main References (Sources)	Podgorsak, E. B. (2006). Radiation Physics for Medical Physicists. Springer.
Recommended Books and References	Medical Physics (Journal, AAPM)
Electronic References and Websites	ScienceDirect – Medical Physics Articles

Level Two

NTU200 — Medical Terminology

1. Course Name	Medical Terminology
2. Course Code	NTU200
3. Semester / Year	First Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	2 theory hours / 2 units
7. Course Coordinator Name	Assist. Prof. Mazin Nadheer Farhan

8. Course Objectives

This course aims to deepen and expand the student's knowledge of specialized medical terminology related to diagnosis, clinical procedures, and complex patient reports, with focus on terminology specific to various body systems relevant to physical therapy practice at Level 2 — including the genitourinary system, digestive system, sensory system, and surgical and pharmacological terminology — enabling the student to use precise medical language in a professional clinical environment.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Distinguishing advanced medical terms related to the genitourinary, digestive, and sensory systems. A2. Analyzing surgical diagnostic terminology and specialized procedures in the physical therapy environment. A3. Linking pharmacological terminology to therapeutic effects relevant to physical therapy. A4. Reading and interpreting radiology and medical imaging reports using correct terminology.	
Teaching Methods	Interactive whiteboard, PowerPoint slides, flashcards, exercises analyzing real medical reports, clinical simulation.
Assessment Methods	Daily tests, semester tests, final written and oral examinations, weekly analytical reports.

B. Skill Objectives Specific to the Course

B1. Analyzing the terminology of complex clinical reports and extracting essential information. B2. Writing clinical summaries using correct, standardized medical terminology.

B3. Using digital medical dictionary tools and specialized applications to verify terms. B4. Performing classification and matching exercises for specialized terms across different body systems.	
Teaching Methods	Interactive whiteboard, PowerPoint slides, flashcards, exercises analyzing real medical reports, clinical simulation.
Assessment Methods	Daily tests, semester tests, final written and oral examinations, weekly analytical reports.

C. Affective and Value-Based Objectives

C1. The student's commitment to professional precision in using medical terminology within the clinical environment. C2. Appreciating the role of accurate medical documentation in protecting patient safety and improving the quality of healthcare. C3. Openness to cultural and linguistic differences in multinational healthcare work environments. C4. Strengthening initiative and continuous research in peer-reviewed medical sources.	
Teaching Methods	(In-person lectures), clinical case studies, summary-writing exercises, group discussions.
Assessment Methods	Daily, semester, and final examinations; evaluation of written reports; clinical seminars.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Skills in editing formal medical reports and preparing patient files.
D2. Oral presentation skills for clinical cases using correct medical terminology.
D3. Skills for working within a multidisciplinary healthcare team using shared medical language.
D4. Critical-thinking skills in interpreting medical information and making clinical decisions.

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	2 theory	Knowledge & Application	Review and Integration: Brief revision of Level 1 Medical Terminology; building complex terms using combined prefixes, roots, and suffixes.	Whiteboard, PowerPoint slides, term-building exercises	Reports, oral and written theoretical exams
2nd	2 theory	Knowledge & Application	Digestive System Terminology: Roots (gastr-, hepat-, cholecyst-, col-); conditions (gastritis, hepatitis, cholelithiasis, colitis, dyspepsia).	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
3rd	2 theory	Knowledge & Application	Digestive System (cont.): Procedural terms (-ostomy, -scopy); surgical	Whiteboard, PowerPoint	Reports, oral and written

			abbreviations (GI, IBD, GERD, NPO); reading GI reports.	slides, sample reports	theoretical exams
4th	2 theory	Knowledge & Application	Urinary System Terminology: Roots (nephr-, ren-, ureter-, cyst-, urethr-); conditions (nephritis, urolithiasis, cystitis, hydronephrosis, UTI).	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
5th	2 theory	Knowledge & Application	Reproductive System Terminology: Roots (gynec-, orchid-, uter-, oophor-); conditions (endometriosis, orchitis, hysterectomy); pelvic floor terminology relevant to PT.	Whiteboard, PowerPoint slides, classroom discussions	Reports, oral and written theoretical exams
6th	2 theory	Knowledge & Application	Endocrine System Terminology: Roots (thyr-, adren-, pancreat-); conditions (hypothyroidism, diabetes mellitus, Cushing syndrome); terminology in metabolic rehabilitation.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
7th	2 theory	Knowledge & Application	Sensory System Terminology: Ophthalmology (ophthalm-, ocul-) and otology (ot-, audi-); conditions (glaucoma, cataract, otitis, tinnitus, vertigo); vestibular PT relevance.	Whiteboard, PowerPoint slides, clinical models	Reports, oral and written theoretical exams
8th	2 theory	Knowledge & Application	Integumentary System Terminology: Roots (derm-, cutane-); conditions (dermatitis, psoriasis, cellulitis, pressure ulcer, wound healing stages); wound care terminology.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
9th	2 theory	Knowledge & Application	Pharmacological Terminology: Drug categories (analgesics, NSAIDs, muscle relaxants, corticosteroids); drug name structures (generic vs. brand); relevance to PT practice.	Whiteboard, PowerPoint slides, pharmacological case discussion	Reports, oral and written theoretical exams
10th	2 theory	Knowledge & Application	Surgical and Procedural Terminology: Common surgical suffixes (-ectomy, -plasty, -rraphy, -desis, -tomy); orthopaedic surgical terms (arthroplasty, laminectomy, arthroscopy).	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
11th	2 theory	Knowledge & Application	Oncology and Rehabilitation Terminology: Basic cancer terminology (carcinoma, sarcoma, metastasis, radiation, chemotherapy); cancer rehabilitation PT terms.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
12th	2 theory	Knowledge & Application	Radiology and Imaging Terminology: Reading MRI, CT, X-Ray, and EMG reports; common radiological terms (lucency, density, effusion, fracture patterns, edema).	Whiteboard, PowerPoint slides, sample radiology reports	Reports, oral and written theoretical exams
13th	2 theory	Knowledge & Application	Clinical Documentation and SOAP Notes: Structure of a SOAP note (Subjective, Objective, Assessment, Plan); abbreviations (PMH, HPI, ROM, MMT, FIM).	Whiteboard, PowerPoint slides, SOAP writing exercises	Reports, oral and written theoretical exams
14th	2 theory	Knowledge & Application	Multidisciplinary Team Terminology: Communication terms in MDT settings (referral, discharge, case conference, outcome measures); ICF model terminology.	Whiteboard, PowerPoint slides, treatment-team simulation	Reports, oral and written theoretical exams

15th	2 theory	Knowledge & Application	Comprehensive Review: Integration of all Level 2 terminology through case-based exercises, mock medical report reading, and oral presentation of clinical summaries.	Whiteboard, PowerPoint slides, clinical case exercises	Comprehensive written and oral examinations

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Chabner, D. E. (2021). The Language of Medicine (12th ed.). Elsevier Saunders.
Main References (Sources)	Ehrlich, A., & Schroeder, C. L. (2017). Medical Terminology for Health Professions (8th ed.). Cengage Learning.
Recommended Books and References	Leonard, P. C. (2021). Quick & Easy Medical Terminology (9th ed.). Elsevier. Venes, D. (Ed.). (2021). Taber's Cyclopedic Medical Dictionary (24th ed.). F.A. Davis.
Electronic References and Websites	MedlinePlus Medical Dictionary (medlineplus.gov); Dorland's Online Medical Dictionary; American Physical Therapy Association (APTA) Terminology Guide

Level Two

NTU201 — Computer

1. Course Name	Computer
2. Course Code	NTU201
3. Semester / Year	First Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person theoretical and practical lectures
6. Credit Hours / Units	1 theory hour + 2 practical hours / 2 units
7. Course Coordinator Name	Assist. Prof. Mazin Nadheer Farhan

8. Course Objectives

This course aims to expand the student's knowledge and technical skills acquired in the Level 1 Computer course, through deepening Microsoft Excel advanced applications and basic statistical data analysis, employing PowerPoint in preparing scientific presentations, and training in the use of electronic medical databases and digital health applications, thereby enhancing the student's proficiency in digital documentation and data analysis relevant to clinical practice and scientific research in physical therapy.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Identifying advanced Microsoft Excel functions (conditional formulas, statistical functions, PivotTable) and their applications in clinical data analysis. A2. Understanding the principles of designing professional presentations with PowerPoint and employing charts and multimedia. A3. Grasping the principles of electronic medical databases (PubMed, Google Scholar, Scopus) and advanced search mechanisms within them. A4. Recognizing the basics of digital health information security and protecting patient data according to approved professional standards.	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, hands-on computer application, group discussions.
Assessment Methods	Daily tests, semester exams, final written and practical exams, weekly reports.

B. Skill Objectives Specific to the Course

B1. Mastering the use of statistical and conditional functions in Excel (such as AVERAGE, IF, VLOOKUP, and COUNTIF) in processing and analyzing patient data.

B2. Designing a PivotTable and a professional chart to present the results of simplified clinical or research data analysis. B3. Preparing a complete scientific presentation with PowerPoint that includes text, charts, and illustrative images in a professional style. B4. Employing advanced electronic search tools in medical databases to access scientific studies relevant to physical therapy.	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, hands-on computer application, group discussions.
Assessment Methods	Daily tests, semester exams, final written and practical exams, weekly reports.

C. Affective and Value-Based Objectives

C1. Strengthening precision and methodology in handling and analyzing digital data objectively, free from bias. C2. Instilling values of academic integrity when using and properly citing electronic research sources. C3. Developing self-confidence in using advanced digital applications and presenting scientific work to peers. C4. Encouraging the student to follow technical developments in health-data analysis and medical digitization.	
Teaching Methods	(In-person lectures), practical applications, group discussions.
Assessment Methods	Daily, semester, and final examinations; evaluation of practical applications.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Developing digital data-analysis skills and employing them in preparing professional academic and clinical reports. D2. Acquiring effective presentation skills in front of an audience using modern digital media. D3. Refining critical-research skills in electronic sources and distinguishing between reliable and unreliable sources. D4. Preparing the student to use advanced digital tools in preparing the graduation research project and future professional reports.

10. Course Structure					
Week	**Hours**	**Learning Outcomes**	**Unit / Topic Name**	**Teaching Method**	**Assessment Method**
1st	1 theory + 2 practical	Knowledge & Application	Review of Computer I Concepts: Recap of file management, MS Word basics. Introduction to advanced Excel interface and ribbon tools.	Whiteboard, hands-on computer practice	Reports, exams

2nd	1 theory + 2 practical	Knowledge & Application	Excel Formulas and Functions – Part 1: Basic formulas (SUM, AVERAGE, COUNT). Cell referencing (relative, absolute). Formula auditing.	Hands-on computer practice	Reports, exams
3rd	1 theory + 2 practical	Knowledge & Application	Excel Formulas and Functions – Part 2: Conditional functions (IF, COUNTIF, SUMIF). Lookup functions (VLOOKUP, HLOOKUP). Practical clinical data examples.	Hands-on computer practice	Reports, exams
4th	1 theory + 2 practical	Knowledge & Application	Data Visualization in Excel: Creating charts (bar, line, pie). Chart formatting and customization. Selecting the right chart for clinical data.	Hands-on computer practice	Reports, exams
5th	1 theory + 2 practical	Knowledge & Application	PivotTables and Data Analysis: Creating and customizing PivotTables. Summarizing large datasets. Basic descriptive statistics in Excel (mean, median, mode, SD).	Hands-on computer practice	Reports, exams
6th	1 theory + 2 practical	Knowledge & Application	Introduction to PowerPoint Design Principles: Slide layouts, themes, master slides. Principles of effective scientific presentation design.	Hands-on computer practice	Reports, exams
7th	1 theory + 2 practical	Knowledge & Application	PowerPoint – Multimedia Integration: Inserting images, charts, tables, and video. Animation and transition effects. Speaker notes.	Hands-on computer practice	Reports, exams
8th	1 theory + 2 practical	Knowledge & Application	Midterm Review: Comprehensive review of Excel and PowerPoint skills. Midterm practical and theoretical examination.	Comprehensive review	Semester exam
9th	1 theory + 2 practical	Knowledge & Application	Academic Database Search – Part 1: PubMed search strategies. MeSH terms. Boolean operators (AND, OR, NOT).	Hands-on electronic research	Reports, exams
10th	1 theory + 2 practical	Knowledge & Application	Academic Database Search – Part 2: Google Scholar and Scopus. Citation tracking. Saving and organizing search results.	Hands-on electronic research	Reports, exams
11th	1 theory + 2 practical	Knowledge & Application	Reference Management Basics: Introduction to citation tools (Mendeley, Zotero basics). Exporting references to Word documents.	Hands-on computer practice	Reports, exams
12th	1 theory + 2 practical	Knowledge & Application	Digital Health Data and Privacy: Electronic Health Records (EHR) basics. Patient data confidentiality. Cybersecurity awareness for healthcare students.	Whiteboard, PowerPoint slides	Reports, exams
13th	1 theory + 2 practical	Knowledge & Application	Integrating Excel and Word: Mail merge basics. Linking Excel charts into Word reports. Preparing a simple data report.	Hands-on computer practice	Reports, exams
14th	1 theory + 2 practical	Knowledge & Application	Capstone Project Preparation: Designing a complete scientific presentation integrating Excel data analysis and PowerPoint design.	Hands-on applied project	Reports, exams

15th	1 theory + 2 practical	Knowledge & Application	Final Project Presentations and Comprehensive Review: Student presentations of capstone projects. Final exam preparation.	Student presentations, review	Comprehensive exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Microsoft Corporation. (2023). Microsoft Excel and PowerPoint Step by Step (Office 365 ed.). Microsoft Press.
Main References (Sources)	Walkenbach, J. (2021). Excel Bible (Office 365 ed.). Wiley.
Recommended Books and References	Alexander, M., & Kusleika, D. (2022). Excel Power Pivot and Power Query for Dummies (3rd ed.). Wiley. Journal of Medical Internet Research (JMIR).
Electronic References and Websites	PubMed: pubmed.ncbi.nlm.nih.gov; Google Scholar: scholar.google.com; Microsoft Office Support: support.microsoft.com

Level Two

NTU202 — Arabic Language

1. Course Name	Arabic Language
2. Course Code	NTU202
3. Semester / Year	Second Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person theoretical lectures
6. Credit Hours / Units	2 theory hours / 2 units
7. Course Coordinator Name	Assist. Prof. Mazin Nadheer Farhan

8. Course Objectives

This course aims to deepen the student's linguistic skills acquired in the Level 1 Arabic Language course, focusing on advanced scientific and technical writing in classical Arabic, mastering academic report- and research-writing skills, and developing basic scientific translation skills for medical terminology between Arabic and English, thereby strengthening the student's ability for high-level professional communication in academic and clinical settings in Arabic.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Identifying the characteristics of advanced scientific and technical writing in Arabic and the standards of high academic style. A2. Understanding the basic principles of scientific translation of medical terms between Arabic and English, and distinguishing between literal and semantic translation. A3. Grasping the rules for preparing a scientific report and academic research in Arabic (introduction, presentation, results, conclusion, recommendations). A4. Recognizing methods of rhetoric and scientific and professional persuasion in Arabic within academic and formal professional contexts.	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, hands-on computer application, group discussions.
Assessment Methods	Daily tests, semester exams, final written and practical exams, weekly reports.

B. Skill Objectives Specific to the Course

B1. Mastering the writing of a complete scientific report in classical Arabic following sound academic structure (introduction, presentation, results, conclusion).

B2. Translating simplified medical texts from English to Arabic and vice versa while preserving the scientific accuracy of the term. B3. Applying summarization and scientific editing skills for long medical texts in precise, clear Arabic. B4. Preparing a complete academic oral presentation in Arabic and delivering it confidently and persuasively.	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, hands-on computer application, group discussions.
Assessment Methods	Daily tests, semester exams, final written and practical exams, weekly reports.

C. Affective and Value-Based Objectives

C1. Strengthening pride in the Arabic language as a scientific language capable of absorbing modern medical and technical terminology. C2. Instilling values of scientific integrity and precision in translation and academic documentation in Arabic. C3. Developing self-confidence in formal oral and written academic expression in Arabic. C4. Encouraging the student to continuously develop their professional Arabic language throughout their academic and professional career.	
Teaching Methods	(In-person lectures), practical applications, group discussions.
Assessment Methods	Daily, semester, and final examinations; evaluation of practical applications.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Developing advanced academic writing skills and preparing professional reports and research in sound Arabic.
D2. Acquiring basic scientific translation skills and employing them in understanding bilingual medical sources.
D3. Refining academic presentation and delivery skills in Arabic before specialized and non-specialized audiences.
D4. Preparing the student for high-level professional communication in Arabic in future academic, clinical, and administrative settings.

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	2	Knowledge	Review of Arabic I Concepts: Grammar and writing fundamentals recap. Introduction to advanced academic writing principles.	Whiteboard, PowerPoint slides	Reports, exams
2nd	2	Knowledge & Application	Scientific and Technical Writing Style: Characteristics of academic Arabic	Whiteboard, applied models	Reports, exams

			writing. Precision, clarity, objectivity in scientific texts.		
3rd	2	Knowledge & Application	Report Writing Structure: Introduction, body, results, conclusion, recommendations. Practicing report structure with sample topics.	Whiteboard, writing workshop	Reports, exams
4th	2	Knowledge & Application	Academic Research Paper Writing: Title, abstract, methodology section in Arabic. Citation and referencing conventions in Arabic academic texts.	Whiteboard, writing workshop	Reports, exams
5th	2	Knowledge & Application	Medical Translation Principles – Part 1: Literal vs. semantic translation. Translating simple medical terms (English to Arabic).	Whiteboard, translation exercises	Reports, exams
6th	2	Knowledge & Application	Medical Translation Principles – Part 2: Translating simple sentences and short medical paragraphs (Arabic to English and vice versa).	Whiteboard, translation exercises	Reports, exams
7th	2	Knowledge & Application	Summarization and Editing Skills: Techniques for summarizing long medical texts. Editing for clarity, conciseness, and accuracy.	Whiteboard, editing workshop	Reports, exams
8th	2	Knowledge & Application	Midterm Review: Review of writing, translation, and summarization skills. Midterm examination.	Comprehensive review	Semester exam
9th	2	Knowledge & Application	Rhetoric and Persuasive Communication: Principles of academic and professional persuasion in Arabic. Structuring a persuasive argument.	Whiteboard, PowerPoint slides	Reports, exams
10th	2	Knowledge & Application	Formal Correspondence in Arabic: Official letters, memos, and administrative correspondence conventions in healthcare institutions.	Whiteboard, official-letter models	Reports, exams
11th	2	Knowledge & Application	Oral Presentation Skills – Part 1: Structuring an academic oral presentation. Voice, pacing, and audience engagement techniques.	Oral training workshop	Reports, exams
12th	2	Knowledge & Application	Oral Presentation Skills – Part 2: Practice presentations on selected health topics with peer and instructor feedback.	Oral training workshop	Reports, exams
13th	2	Knowledge & Application	Critical Reading of Arabic Medical Texts: Reading and analyzing Arabic-language medical articles and reports critically.	Whiteboard, applied texts	Reports, exams
14th	2	Knowledge & Application	Integrated Writing and Translation Project: Students prepare a short bilingual report (Arabic/English) on a health topic of choice.	Applied project workshop	Reports, exams
15th	2	Knowledge & Application	Final Presentations and Comprehensive Review: Student presentations of integrated projects. Final exam preparation.	Student presentations, review	Comprehensive exams

11. Course Assessment

Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Abdul Alim Ibrahim. (2018). Scientific Writing: Foundations and Applications. Dar Al-Maarif.
Main References (Sources)	Ahmed Mukhtar Omar. (2019). Semantics and Scientific Term Translation. Anglo-Egyptian Bookshop.
Recommended Books and References	Journal of the Iraqi Scientific Academy (Terminology and Scientific Translation); Journal of Arabic Language and its Applications (Iraqi universities).
Electronic References and Websites	Unified Medical Dictionary (WHO – Eastern Mediterranean): emro.who.int; Arabic Language Academy in Cairo: alecso.org

Level Two

NTU203 — Crimes of the Baathist Regime in Iraq

1. Course Name	Crimes of the Baathist Regime in Iraq
2. Course Code	NTU203
3. Semester / Year	First Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	Theory hours / 2 units
7. Course Coordinator Name	Assist. Prof. Dr. Shaima Ibrahim Taha

8. Course Objectives

Focusing on studying the crimes and practices committed by the Baathist regime in Iraq during its period of rule.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Understanding the historical context: identifying the political and social conditions that led to the emergence of the Baathist regime in Iraq and how this affected the country. A2. Analyzing violations: studying the crimes committed by the regime, such as genocide, torture, and arbitrary detention, and their effects on Iraqi society. A3. Assessing impacts: assessing the psychological, social, and economic effects of the crimes committed by the Baathist regime on individuals and society. A4. Strengthening rights awareness: strengthening understanding of human rights and relevant international laws, and how they can be used to hold those responsible for these crimes accountable.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

B. Skill Objectives Specific to the Course

B1. Strengthening empathy: developing the ability to empathize with victims and their families, and understanding the suffering resulting from the violations committed by the regime.

B2. Increasing awareness of human values: strengthening the values of justice, equality, and respect for human rights, and recognizing the importance of protecting these values in societies. B3. Appreciating cultural diversity: strengthening appreciation of cultural and religious diversity in Iraq, and understanding how the violations affected relations between different communities. B4. Stimulating ethical critical thinking: encouraging students to think critically about ethical issues related to the crimes, such as individual and collective responsibility.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

C. Affective and Value-Based Objectives

C1. Developing empathy: strengthening the ability to understand the feelings of victims and their families, helping students connect with human suffering. C2. Awareness of psychological effects: recognizing the psychological and social effects of violations on individuals and societies, strengthening deep understanding of the psychological consequences of crimes. C3. Encouraging emotional critical thinking: strengthening the ability to think critically about emotional experiences associated with the crimes, and how they can affect the formation of individual and collective identity. C4. Valuing individual experiences: strengthening the importance of listening to survivors' personal experiences, contributing to building a culture of respect and appreciation.	
Teaching Methods	(In-person lectures)
Assessment Methods	Daily tests, semester tests, final examinations.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Research and analysis skills: gathering information — the ability to research historical and legal information related to the crimes; data analysis — analyzing evidence and testimonies to understand different contexts and assess their validity. D2. Communication skills: effective communication — developing the ability to express ideas clearly, whether in writing or orally, including delivering presentations and discussions; active listening — strengthening listening skills to understand others' viewpoints and appreciate different experiences. D3. Critical-thinking skills: critical evaluation — the ability to think critically about information and ideas, helping in making informed decisions; ethical analysis — understanding the ethical dimensions of historical and societal issues related to the crimes.

D4. Teamwork skills: collaboration — strengthening the ability to work within multidisciplinary teams, contributing to developing group projects that reflect diverse understanding of the issues; conflict resolution — learning how to handle conflicts constructively and achieve positive outcomes.

10. Course Structure					
Week	**Hours**	**Learning Outcomes**	**Unit / Topic Name**	**Teaching Method**	**Assessment Method**
1st	2 theory	Knowledge	Violations of rights and freedoms	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
2nd	2 theory	Knowledge	A descriptive overview of political regimes in Iraq (1921-2003)	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
3rd	2 theory	Knowledge	Violations of public rights and freedoms by the Baathist regime	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
4th	2 theory	Knowledge	The impact of the Baathist regime's behavior on society	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
5th	2 theory	Knowledge	The impact of the transitional phase in combating authoritarian policy	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
6th	2 theory	Knowledge	The psychological domain	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
7th	2 theory	Knowledge	The social domain	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
8th	2 theory	Knowledge	Religion and the state	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
9th	2 theory	Knowledge	Culture, media, and militarization of society	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
10th	2 theory	Knowledge	The impact of repression and wars on the environment and population	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
11th	2 theory	Knowledge	Use of internationally banned weapons and environmental pollution	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
12th	2 theory	Knowledge	The scorched-earth policy	Whiteboard, PowerPoint slides	Reports, oral and written

					theoretical exams
13th	2 theory	Knowledge	Draining of the marshes and forced displacement	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
14th	2 theory	Knowledge	Destruction of agricultural and animal environments and radioactive contamination	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
15th	2 theory	Knowledge	Mass graves and the bombing of places of worship	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Al-Rubaie, Hassan (2009). Crimes of the Baath: Testimonies and Documents. Dar Al-Jamal.
Main References (Sources)	Tripp, C. (2007). A History of Iraq (3rd ed.). Cambridge University Press.
Recommended Books and References	Human Rights Watch Reports on Iraq
Electronic References and Websites	United Nations – Archive of Crimes Against Humanity

Level Two

NTU204 — Professional Ethics

1. Course Name	Professional Ethics
2. Course Code	NTU204
3. Semester / Year	Second Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	Theory hours / 2 units
7. Course Coordinator Name	Assist. Prof. Dr. Shaima Ibrahim Taha

8. Course Objectives

Focusing on strengthening deep understanding of the ethical values and principles that individuals must adopt in their fields of work.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Understanding basic ethical principles: identifying key ethical values and principles such as integrity, confidentiality, and respect, and how to apply them in the field of physical therapy. Understanding the therapist's responsibility toward patients, colleagues, and society. A2. Identifying laws and professional standards: understanding the laws and legislation related to the practice of physical therapy, including the regulations governing the profession and dealing with patients. Identifying the approved professional regulations and standards that define how to practice the profession safely and responsibly. A3. Analyzing ethical issues in healthcare: the ability to analyze ethical problems and issues that may arise in daily work situations, such as challenges related to patient privacy, informed consent, and conflict-of-interest situations. Identifying how to handle ethically difficult situations using an ethical framework. A4. Distinguishing between rights and duties: identifying patients' rights and the therapist's duties, including the right to privacy, information, and access to appropriate treatment.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

B. Skill Objectives Specific to the Course

B1. Ethical decision-making skills: developing the ability to make sound ethical decisions when dealing with complex professional situations. The ability to use an ethical framework to analyze and evaluate available options in situations requiring an ethical resolution. B2. Effective communication skills: strengthening verbal and written communication skills with patients and colleagues, taking into account ethical values such as honesty and respect. The ability to explain complex ethical decisions to patients clearly and understandably, and respecting the patient's right to participate in decisions related to their care. B3. Conflict-resolution skills: learning how to handle ethical and professional conflicts effectively and constructively. The ability to negotiate and reach solutions that satisfy all parties concerned, while maintaining commitment to ethical values. B4. Confidentiality and information-protection skills: developing the ability to handle patients' personal and sensitive information in a way that respects privacy and confidentiality. Learning how to store and process medical information securely and in compliance with legal and ethical standards.

Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

C. Affective and Value-Based Objectives

C1. Strengthening empathy with patients: developing students' ability to understand patients' feelings and pain and empathize with them, strengthening human communication and personal care. Instilling the importance of respecting patients' feelings and working to provide care that considers their emotional and psychological needs. C2. Developing a sense of ethical responsibility: strengthening the sense of responsibility toward patients and society in all aspects of professional practice. Instilling commitment to providing medical care ethically and transparently, and placing the patient's interest above all other considerations. C3. Strengthening self-confidence in making ethical decisions: developing students' self-confidence when facing situations requiring complex ethical decisions. Instilling belief in the importance of making decisions based on ethical and professional principles. C4. Developing ethical sensitivity: increasing students' awareness of cultural and ethical sensitivities in dealing with different patients in terms of social, religious, and cultural backgrounds. Strengthening awareness of the

importance of respecting the values and beliefs of patients and colleagues.	
Teaching Methods	(In-person lectures)
Assessment Methods	Daily tests, semester tests, final examinations.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Effective communication skills: the ability to communicate clearly and effectively with patients, colleagues, and members of the medical team. Improving active-listening skills to better interact with patients' problems and understand their needs. The ability to provide detailed, clear explanations of complex ethical issues.

D2. Critical-thinking and problem-solving skills: developing critical-thinking skills to analyze complex ethical situations and provide solutions based on professional values. The ability to make well-considered, sound decisions when facing ethical and professional challenges at work.

D3. Teamwork and collaboration skills: strengthening the ability to work effectively as part of a multidisciplinary team, contributing to improved comprehensive healthcare. Learning how to manage conflicts and solve problems collaboratively while upholding ethical values.

D4. Self-management and organization skills: developing the ability to organize time and tasks efficiently to ensure professional and sustainable healthcare delivery. Improving stress-management skills and flexibility in dealing with difficult and complex situations in the work environment.

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	2 theory	Knowledge	Principles of professional ethics across stages of civilizational development	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
2nd	2 theory	Knowledge	Principles of professional ethics in Arab and Islamic civilization	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
3rd	2 theory	Knowledge	Professional behavior: definition, concept, practical applications, and the relationship between employees and their superiors	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
4th	2 theory	Knowledge	The basic ethics of the profession	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
5th	2 theory	Knowledge	Characteristics of professional ethics as a guide and director of behavior	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
6th	2 theory	Knowledge	Characteristics and traits of healthcare workers: appearance, behavior, and commitment	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
7th	2 theory	Knowledge	The moral and legal rights of the patient and dealing according to the behavior of the patient and their companions	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

8th	2 theory	Knowledge	Behavioral / human patterns: definition, nature, motives, and interpretations	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
9th	2 theory	Knowledge	Communication methods – verbal and non-verbal: definition, types, effects; designing successful communication methods	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
10th	2 theory	Knowledge	How communication methods affect behavior, attentiveness, and listening	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
11th	2 theory	Knowledge	Behavioral attitudes and tendencies: definition, classification, influencing factors, measurement methods	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
12th	2 theory	Knowledge	Personality types and how to deal with them	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
13th	2 theory	Knowledge	Definition of personality, its types, and its relationship to the profession; the personality of the technician and its manifestations	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
14th	2 theory	Knowledge	Conditions for professional compatibility and its related work relationship: concept, conditions, poor professional compatibility	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
15th	2 theory	Knowledge	Behavior in dealing with the patient: receiving and dealing with the patient, gaining their trust, and maintaining professional confidentiality	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Beauchamp, T. L., & Childress, J. F. (2019). Principles of Biomedical Ethics (8th ed.). Oxford University Press.
Main References (Sources)	Banks, S. (2016). Ethics and Values in Social Work (4th ed.). Palgrave.
Recommended Books and References	Journal of Medical Ethics
Electronic References and Websites	American Medical Association (AMA) – Code of Ethics

Level Two

MTCD201 — Medical Psychology

1. Course Name	Medical Psychology
2. Course Code	MTCD201
3. Semester / Year	Second Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	Theory hours / 2 units
7. Course Coordinator Name	Lect. Taha Akram Shabib

8. Course Objectives

The objectives of Medical Psychology focus on studying the relationship between psychological and health aspects, and the influence of psychological factors on health and disease.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Understanding the psychological factors associated with health: studying how emotions and behaviors affect patients' health and improve physical therapy outcomes. A2. Developing psychological assessment skills: enabling students to assess patients' psychological state and how it affects their physical treatment. A3. Teaching coping strategies: providing techniques to help patients deal with pain and anxiety, and strengthening their ability to cope with their health conditions. A4. Strengthening the interaction between practitioners and patients: understanding the importance of effective communication and how it can affect treatment outcomes.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

B. Skill Objectives Specific to the Course

B1. Effective communication skills: strengthening the ability to communicate effectively with patients, including active listening, expressing empathy, and asking appropriate questions to understand their needs.

B2. Psychological assessment: developing skills for assessing patients' psychological state through psychological assessment tools and observation, and identifying factors that may affect their treatment progress. B3. Applying coping strategies: learning how to use techniques such as relaxation, mental imagery, and breathing techniques to help manage patients' anxiety and pain. B4. Developing comprehensive treatment plans: learning how to integrate psychological knowledge with physical therapy plans, so that they include both the psychological and physical aspects of treatment.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

C. Affective and Value-Based Objectives

C1. Strengthening empathy and compassion: developing a sense of empathy with patients and understanding their psychological and physical experiences, which enhances the quality of care provided. C2. Respecting cultural diversity: strengthening values of respect for cultural and social diversity and recognizing the importance of differences in how cultural factors affect mental health. C3. Strengthening ethical values: teaching students the ethical values related to privacy, confidentiality, and respect in dealing with patients and their health information. C4. Stimulating social responsibility: encouraging students to be socially responsible by providing psychological support to the community and sharing psychological knowledge to improve public health.	
Teaching Methods	(In-person lectures)
Assessment Methods	Daily tests, semester tests, final examinations.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Effective communication skills: the ability to express ideas clearly and listen to others, facilitating interaction with patients and colleagues. D2. Critical-thinking skills: developing the ability to analyze information, make well-considered decisions, and solve problems in clinical contexts. D3. Adapting to change: the ability to adapt to different work environments and rapid changes in the healthcare field. D4. Organization and time-management skills: developing the ability to manage time effectively, organize tasks, and set priorities to achieve goals.

10. Course Structure					
Week	**Hours**	**Learning Outcomes**	**Unit / Topic Name**	**Teaching Method**	**Assessment Method**
1st	2 theory	Knowledge	Introduction to the science of psychology	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
2nd	2 theory	Knowledge	Schools of thought in psychology – Gestalt psychology – psychoanalysis	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
3rd	2 theory	Knowledge	Humanistic psychology – behaviorism	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
4th	2 theory	Knowledge	Mental processes: memory, forgetting, thinking, language	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
5th	2 theory	Knowledge	Senses – attention – imagination	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
6th	2 theory	Knowledge	The structural model of personality	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
7th	2 theory	Knowledge	Psychological defense mechanisms	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
8th	2 theory	Knowledge	Methods of study in psychology	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
9th	2 theory	Knowledge	The psychological causes for the appearance of disorder	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
10th	2 theory	Knowledge	Psychosomatic disorders: hypochondriasis – somatization disorder	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
11th	2 theory	Knowledge	The doctor–patient relationship – medical consultation	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
12th	2 theory	Knowledge	Psychotherapy – medical applications of psychotherapy	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
13th	2 theory	Knowledge	Biological basis of behavior	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

14th	2 theory	Knowledge	Suicide: the etiology of suicide	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
15th	2 theory	Knowledge	Drug addiction	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Taylor, S. E. (2017). Health Psychology (10th ed.). McGraw-Hill.
Main References (Sources)	Lloyd, G. G., & Bor, R. (2009). Practical Medical Psychology. Springer.
Recommended Books and References	Psychosomatic Medicine
Electronic References and Websites	PubMed – Medical & Health Psychology Research

Level Two

MTCD202 — Metabolism

1. Course Name	Metabolism
2. Course Code	MTCD202
3. Semester / Year	First Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	30 theory hours + 30 practical hours / 3 units
7. Course Coordinator Name	Dr. Sama Amer Abbas

8. Course Objectives

Focusing on studying how the body processes food and uses it to produce energy and support various body functions.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Understanding metabolic processes: enabling students to understand how metabolism occurs in the body, including the metabolism of fats, carbohydrates, and proteins. A2. Applying nutritional knowledge: teaching students how to apply nutritional knowledge to improve athletic performance and patients' general health. A3. Assessing nutritional status: training students on how to assess patients' nutritional status and use the necessary tools for this. A4. Nutritional planning: enabling students to design appropriate nutritional plans that meet patients' needs in different treatment situations.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

B. Skill Objectives Specific to the Course

B1. Analyzing nutritional data: developing students' skills in analyzing nutritional information, including reading food labels and understanding food contents. B2. Assessing nutritional status: acquiring the ability to conduct a comprehensive assessment of patients'

nutritional status using tools such as questionnaires and physical measurements. B3. Meal planning: learning how to design customized meal plans suited to patients' needs, including calculating calories and nutrients. B4. Guiding patients: improving communication skills to guide patients in choosing healthy foods and how to improve their dietary habits.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

C. Affective and Value-Based Objectives

C1. Appreciating the importance of nutrition: strengthening the value of proper nutrition as a fundamental element in maintaining health and well-being. C2. Respecting dietary diversity: developing students' awareness of the importance of dietary diversity and respect for different cultures in dietary practices. C3. Strengthening professional responsibility: developing a sense of responsibility toward providing sound, appropriate nutritional advice to patients, taking into account their individual needs. C4. Developing empathy: strengthening empathy skills and the ability to understand patients' needs and provide emotional support regarding lifestyle changes.	
Teaching Methods	(In-person lectures)
Assessment Methods	Daily tests, semester tests, final examinations.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Communication skills: improving the ability to communicate effectively with patients, colleagues, and family members, including active listening and expressing ideas clearly. D2. Teamwork skills: developing the ability to work within a multidisciplinary team, which strengthens collaboration and leads to better patient outcomes. D3. Critical-thinking skills: strengthening the ability to analyze information and make evidence-based decisions, enabling students to provide effective nutritional recommendations. D4. Time-management skills: acquiring skills in organizing time and setting priorities to ensure academic and professional goals are achieved.

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	2 theory + 2 practical	Knowledge & Application	Metabolism	Whiteboard, PowerPoint slides	Reports, oral and written

					theoretical exams
2nd	2 theory + 2 practical	Knowledge & Application	Enzymes	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
3rd	2 theory + 2 practical	Knowledge & Application	Michaelis–Menten Theory	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
4th	2 theory + 2 practical	Knowledge & Application	Carbohydrate Metabolism	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
5th	2 theory + 2 practical	Knowledge & Application	Lactic Acid Fermentation	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
6th	2 theory + 2 practical	Knowledge & Application	Citric Acid Cycle / TCA Cycle / Krebs Cycle	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
7th	2 theory + 2 practical	Knowledge & Application	The Electron Transport Chain	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
8th	2 theory + 2 practical	Knowledge & Application	Fructose Metabolism	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
9th	2 theory + 2 practical	Knowledge & Application	Galactose Metabolism	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
10th	2 theory + 2 practical	Knowledge & Application	Glycogen Metabolism	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
11th	2 theory + 2 practical	Knowledge & Application	Protein Metabolism	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
12th	2 theory + 2 practical	Knowledge & Application	Protein Synthesis	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
13th	2 theory + 2 practical	Knowledge & Application	Lipid Metabolism	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
14th	2 theory + 2 practical	Knowledge & Application	Cholesterol Metabolism	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

15th	2 theory + 2 practical	Knowledge & Application	Nucleotide Metabolism	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Nelson, D. L., & Cox, M. M. (2017). Lehninger Principles of Biochemistry (7th ed.). W. H. Freeman.
Main References (Sources)	Brody, T. (1999). Nutritional Biochemistry (2nd ed.). Academic Press.
Recommended Books and References	American Journal of Clinical Nutrition (AJCN)
Electronic References and Websites	World Health Organization (WHO) – Nutrition

Level Two

MTCD203 — Biostatistics

1. Course Name	Biostatistics
2. Course Code	MTCD203
3. Semester / Year	Second Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	30 theory hours + 30 practical hours / 3 units
7. Course Coordinator Name	Assist. Prof. Dr. Ghassan Jasim Hadi

8. Course Objectives

The Biostatistics course focuses on studying the statistical methods used in collecting, organizing, summarizing, presenting, analyzing, and interpreting biological, medical, and health data, supporting scientific research and decision-making in health and medical fields, and helping students understand and analyze data using appropriate statistical methods and specialized software.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Understanding the concept of statistics and biostatistics and its importance in scientific research. A2. Identifying types of data and variables and their classification. A3. Understanding methods of data collection and sampling techniques. A4. Organizing, tabulating, and presenting data using tables and graphs.	
Teaching Methods	In-person instruction (scientific films and videos, laboratories, summer and professional training, and graduation projects); scientific visits and practical training in hospitals by specialized medical staff.
Assessment Methods	Daily tests, semester exams, final exams, weekly reports within the course, seminars within courses, discussions and conversations during class.

B. Skill Objectives Specific to the Course

B1. Handling scientific data in the correct way. B2. Classifying data and variables and distinguishing their types.

B3. Tabulating data and analyzing it statistically. B4. Calculating basic statistical indicators.	
Teaching Methods	In-person instruction (scientific films and videos, laboratories, summer and professional training, and graduation projects); scientific visits and practical training in hospitals by specialized medical staff.
Assessment Methods	Daily tests, semester exams, final exams, weekly reports within the course, seminars within courses, discussions and conversations during class.

C. Affective and Value-Based Objectives

C1. The ability to communicate effectively with stakeholders in the field of specialization. C2. Recognizing the need for, and the ability to engage in, lifelong learning. C3. Awareness of contemporary issues in the field of specialization. C4. The broad education necessary to understand global solutions and economic, environmental, and social problems in order to supply health institutions, according to their needs, with specializations in rehabilitation and patient treatment in specialized hospitals and outpatient/consultative clinics.	
Teaching Methods	(In-person lectures), summer and professional training and graduation projects, and field visits and life-saving practical training for clinical subjects.
Assessment Methods	Daily, semester, and final examinations; submission of weekly reports and patient-related seminars and follow-up reports on clinical patient cases, along with practical discussions during the practical lesson in the hospital.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Teamwork and collaboration skills.
D2. Computer typing skills.
D3. English-language communication skills.
D4. Work-endurance and problem-solving skills.

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	2 theory + 2 practical	Knowledge & Application	Introduction to Statistics and Biostatistics	Whiteboard, PowerPoint	Reports, oral and written

				slides, practical exercises	theoretical exams
2nd	2 theory + 2 practical	Knowledge & Application	Types of Data and their Sources	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
3rd	2 theory + 2 practical	Knowledge & Application	Methods of Data Collection and Questionnaires	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
4th	2 theory + 2 practical	Knowledge & Application	Samples and Sampling Methods	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
5th	2 theory + 2 practical	Knowledge & Application	Organizing Data and Tabular/Graphical Presentation	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
6th	2 theory + 2 practical	Knowledge & Application	Measures of Central Tendency	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
7th	2 theory + 2 practical	Knowledge & Application	(Mean, Median, Mode)	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
8th	2 theory + 2 practical	Knowledge & Application	Probability Distributions	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
9th	2 theory + 2 practical	Knowledge & Application	Standard Error	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
10th	2 theory + 2 practical	Knowledge & Application	Measures of Dispersion and Deviation	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
11th	2 theory + 2 practical	Knowledge & Application	Skewness & Kurtosis	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
12th	2 theory + 2 practical	Knowledge & Application	Fundamentals of Probability	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
13th	2 theory + 2 practical	Knowledge & Application	Analysis of Health and Demographic Data	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams
14th	2 theory + 2 practical	Knowledge & Application	General Review and Practical Applications	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams

15th	2 theory + 2 practical	Knowledge & Application	Revision	Whiteboard, PowerPoint slides, practical exercises	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	—
Main References (Sources)	—
Recommended Books and References	—
Electronic References and Websites	—

Level Two

PTT201 — Basics of Therapeutic Exercises

1. Course Name	Basics of Therapeutic Exercises
2. Course Code	PTT201
3. Semester / Year	First Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	30 theory hours + 45 practical hours / 3 units
7. Course Coordinator Name	Dr. Fawzi Hamadi Mahdi

8. Course Objectives

Understanding the basic principles of therapeutic exercise: identifying the scientific foundations of exercise and its effect on the musculoskeletal and nervous systems.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Understanding the scientific foundations: learning the physiological and anatomical principles associated with therapeutic training and how they affect the body. A2. Designing therapeutic programs: the ability to design therapeutic programs appropriate for different medical conditions based on the clinical assessment of the patient's condition. A3. Classifying the different types of therapeutic exercises: identifying the different types of therapeutic exercises (such as aerobic exercises, muscle strengthening, flexibility exercises) and determining when and how they are used. A4. Assessment and diagnosis: learning how to assess the patient's condition and use therapeutic exercises as part of the comprehensive treatment plan.	
Teaching Methods	In-person instruction (scientific films and videos on correct English pronunciation).
Assessment Methods	Daily tests, semester tests, final examinations.

B. Skill Objectives Specific to the Course

B1. Developing empathy with patients: strengthening the ability to empathize with patients and understand their psychological and emotional needs alongside their physical needs.

B2. Stimulating professional commitment: encouraging students to adhere to professional standards and ethics, with a focus on responsibility and transparency when working with patients. B3. Strengthening patience and understanding: developing patience and understanding skills, especially when working with patients suffering from chronic pain or significant physical challenges. B4. Building self-confidence in providing care: developing confidence in the ability to provide appropriate therapeutic care and use therapeutic exercises effectively.	
Teaching Methods	In-person instruction (scientific films and videos on correct English pronunciation).
Assessment Methods	Daily tests, semester tests, final examinations.

C. Affective and Value-Based Objectives

C1. Strengthening respect and appreciation for patients: understanding the value of respecting patients' privacy and dignity regardless of their health condition; developing the ability to treat all patients with respect and appreciation for their special needs. C2. Developing a sense of professional responsibility: developing commitment to professional ethics and the importance of providing safe and effective therapeutic care; strengthening a sense of responsibility toward improving patients' quality of life through the application of therapeutic exercises. C3. Encouraging empathy and care: motivating students to embody empathy and human care toward patients, and understanding their experiences and suffering; working to build human relationships based on trust and support between the therapist and the patient. C4. Instilling ethical values in practice: emphasizing integrity and transparency at work, and avoiding bias or exploitation; developing commitment to providing care based on human values such as justice, equality, and mutual respect.	
Teaching Methods	(In-person lectures)
Assessment Methods	Daily tests, semester tests, final examinations.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Effective communication skills: oral communication — the ability to clearly explain and guide patients on how to perform therapeutic exercises, and the importance of clear, professional communication with colleagues and the healthcare team; written communication — recording medical notes accurately and clearly, and preparing reports on patients' condition and progress; emotional communication — developing the ability to communicate with patients in ways that show understanding and empathy. D2. Critical-thinking and problem-solving skills: the ability to analyze clinical cases and determine the best therapeutic exercises suited to each patient based on objective assessment; developing strategies

to solve problems that may face the patient during treatment, such as pain resistance or movement challenges.

D3. Time-management and organization skills: learning how to manage time efficiently when working with different patients and organizing treatment plans according to each patient's needs; organizing appointments and exercise schedules in a way that ensures effective, continuous care.

D4. Teamwork and collaboration: developing skills for working within a multidisciplinary healthcare team, and collaborating with professional colleagues and medical team members to provide the best possible care; understanding the role of each member of the medical team and coordinating between them to ensure the treatment plan is implemented in an integrated manner.

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	2 theory + 3 practical	Knowledge & Application	Introduction to Exercise Therapy	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
2nd	2 theory + 3 practical	Knowledge & Application	Basics of Exercise	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
3rd	2 theory + 3 practical	Knowledge & Application	Disability Models	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
4th	2 theory + 3 practical	Knowledge & Application	Exercise Physiology	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
5th	2 theory + 3 practical	Knowledge & Application	Joint Movements: Terminology, range of motion, axes and planes of movement, levers	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
6th	2 theory + 3 practical	Knowledge & Application	Passive Movements	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
7th	2 theory + 3 practical	Knowledge & Application	Active Movements	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
8th	2 theory + 3 practical	Knowledge & Application	Starting Positions: 1. Fundamental starting positions; 2. Derived positions; 3. Muscle work – effects and uses	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
9th	2 theory + 3 practical	Knowledge & Application	Manual Muscle Test	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
10th	2 theory + 3 practical	Knowledge & Application	Goniometry	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

11th	2 theory + 3 practical	Knowledge & Application	Causes for Restriction of Range of Motion	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
12th	2 theory + 3 practical	Knowledge & Application	Mobility Aids – Crutches, Canes, Walker	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
13th	2 theory + 3 practical	Knowledge & Application	Measurement of Limb Length, Girth	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
14th	2 theory + 3 practical	Knowledge & Application	Suspension Therapy	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
15th	2 theory + 3 practical	Knowledge & Application	Relaxation: Types & techniques; effects & uses	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Kisner, C., & Colby, L. A. (2017). Therapeutic Exercise: Foundations and Techniques (7th ed.). F.A. Davis.
Main References (Sources)	Goodman, C. C., & Fuller, K. S. (2020). Pathology for the Physical Therapist Assistant (2nd ed.). Elsevier.
Recommended Books and References	Journal of Orthopaedic & Sports Physical Therapy (JOSPT)
Electronic References and Websites	American Physical Therapy Association (APTA)

Level Two

PTT202 — Advanced Therapeutic Exercises

1. Course Name	Advanced Therapeutic Exercises
2. Course Code	PTT202
3. Semester / Year	Second Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	Theory hours + 45 practical hours / 3 units
7. Course Coordinator Name	Dr. Fawzi Hamadi Mahdi

8. Course Objectives

Developing specialized therapeutic programs: the ability to design advanced therapeutic exercise programs suited to complex health conditions such as acute injuries, surgical operations, and chronic diseases, as well as focusing on restoring and improving patients' functional capacity, including normal movement and muscular strength, while taking into account all health restrictions.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Understanding the basic principles of therapeutic exercise: this includes understanding the movement, physiological, and biomechanical systems that affect the body's response to therapeutic exercise. A2. Analyzing and assessing therapeutic needs: the ability to analyze patients' individual needs and assess their health conditions in order to design customized therapeutic exercise programs. A3. Designing and implementing advanced therapeutic exercise programs: identifying how to create therapeutic exercise programs suited to specific conditions such as sports injuries, musculoskeletal diseases, and chronic illnesses. A4. Applying advanced rehabilitation strategies: learning advanced strategies to increase the efficiency of rehabilitation and improve physical performance through the use of therapeutic exercises.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

B. Skill Objectives Specific to the Course

B1. Accurately assessing physical condition: the ability to conduct a comprehensive and accurate assessment of the patient's physical condition using clinical examinations and modern assessment methods to determine therapeutic needs. B2. Developing individualized therapeutic exercise programs: the skill of designing customized exercise programs based on each patient's condition, taking into account factors such as age, fitness level, and type of injury or health condition. B3. Correctly implementing therapeutic exercises: mastering the implementation of therapeutic exercises with their various techniques safely and effectively, observing proper technique and the necessary precautions to avoid injuries. B4. Using advanced techniques and equipment: the ability to use modern devices and equipment used in rehabilitation, such as balance devices, strength-training equipment, and movement simulation devices.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

C. Affective and Value-Based Objectives

C1. Strengthening empathy and humane care: encouraging students to develop feelings of empathy and understanding of patients' needs, and dealing with them kindly and respectfully, taking into account the psychological and social aspects of each patient. C2. Instilling values of professional responsibility: establishing the value of responsibility and commitment toward patients, including commitment to providing the best possible levels of care, and respecting patients' rights and privacy. C3. Encouraging self-discipline and professionalism: strengthening discipline at work and maintaining professional behavior in dealing with patients and colleagues, in addition to observing punctuality and precision in delivering treatments. C4. Strengthening awareness of professional ethics: instilling deep understanding of professional ethics, such as honesty and integrity in assessment, diagnosis, and treatment, in addition to adherence to ethical standards in making treatment decisions.	
Teaching Methods	(In-person lectures)
Assessment Methods	Daily tests, semester tests, final examinations.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Problem-solving skills: developing the ability to analyze complex medical cases and find effective, innovative treatment solutions, enhancing students' competence in clinical situations requiring fast, accurate decisions.

D2. Critical and analytical thinking: strengthening the ability to critically evaluate medical data and information, and examining scientific evidence to apply best practices in designing therapeutic exercise programs.

D3. Time management: improving time-organization skills and managing treatment schedules, enabling students to handle multiple patients effectively and efficiently within a specified time frame.

D4. Effective communication skills: learning how to communicate clearly and professionally with patients, healthcare teams, and community members, both verbally and in writing, to effectively convey therapeutic information and educate patients.

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	2 theory + 3 practical	Knowledge & Application	Mat Exercises	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
2nd	2 theory + 3 practical	Knowledge & Application	Free Exercises	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
3rd	2 theory + 3 practical	Knowledge & Application	Resisted Exercise	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
4th	2 theory + 3 practical	Knowledge & Application	Progressive Resistance Exercise – DeLorme, Oxford, MacQueen, Circuit Weight Training	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
5th	2 theory + 3 practical	Knowledge & Application	Stretching	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
6th	2 theory + 3 practical	Knowledge & Application	Breathing Exercises	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
7th	2 theory + 3 practical	Knowledge & Application	Aerobic Exercise	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
8th	2 theory + 3 practical	Knowledge & Application	Coordination	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
9th	2 theory + 3 practical	Knowledge & Application	Posture	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

10th	2 theory + 3 practical	Knowledge & Application	Gait Training	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
11th	2 theory + 3 practical	Knowledge & Application	Soft Tissue Lesions	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
12th	2 theory + 3 practical	Knowledge & Application	Massage: Defining and describing the various manipulation techniques used in massage.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
13th	2 theory + 3 practical	Knowledge & Application	Hydrotherapy	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
14th	2 theory + 3 practical	Knowledge & Application	Transfers Training: Selection of transfers, levels, amount of assist, transfer belt	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
15th	2 theory	Knowledge & Application	Proprioceptive Neuromuscular Facilitation (PNF)	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Kisner, C., Colby, L. A., & Borstad, J. (2017). Therapeutic Exercise: Foundations and Techniques (7th ed.). F.A. Davis.
Main References (Sources)	Magee, D. J. (2014). Orthopedic Physical Assessment (6th ed.). Elsevier.
Recommended Books and References	Journal of Orthopedic & Sports Physical Therapy (JOSPT)
Electronic References and Websites	American Physical Therapy Association (APTA)

Level Two

PTT203 — Physiotherapy for General Surgery

1. Course Name	Physiotherapy for General Surgery
2. Course Code	PTT203
3. Semester / Year	First Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	30 theory hours + 60 practical hours / 4 units
7. Course Coordinator Name	Dr. Salam Muhanad Salman

8. Course Objectives

The goals of physical therapy in the field of general surgery are diverse and focus on supporting rapid recovery and improving quality of life after surgical operations.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Understanding the physiological foundations of surgery: identifying the effect of surgical operations on the body, including vital systems such as the respiratory, cardiovascular, and musculoskeletal systems. A2. Identifying the different types of surgical operations: understanding the differences between different types of surgery (such as abdominal, thoracic, and reconstructive surgeries) and their effects on movement and physical function. A3. Knowing the basic principles of post-surgical physical therapy: understanding the role of physical therapy in rehabilitating patients after surgery, including techniques for improving movement and flexibility, reducing pain, and accelerating the healing process. A4. Understanding the effect of anesthesia and surgery on breathing: identifying the effects of anesthesia and surgery on the respiratory system and how to apply breathing exercises and improve lung function after surgery.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

B. Skill Objectives Specific to the Course

B1. Assessing patients' physical condition: developing the skill of assessing the physical and functional status of patients before and after surgery using objective assessment tools such as measuring muscle strength, range of motion, and respiratory function. B2. Designing customized therapeutic programs: the ability to design and implement individual rehabilitation programs suited to patients' needs before and after surgery, taking into account the type of surgery and the patients' medical history. B3. Correctly implementing therapeutic exercises: mastering the implementation of therapeutic exercises and the clinical techniques required to improve movement and flexibility and promote healing after surgical operations. B4. Applying pain-management techniques: learning how to use techniques such as electrical stimulation, manual techniques, and breathing exercises to relieve pain and improve patient comfort after surgery.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

C. Affective and Value-Based Objectives

C1. Strengthening empathy and compassion: instilling values of empathy and compassion toward patients, which strengthens the ability to understand their feelings and psychological needs during recovery periods. C2. Instilling ethical and professional values: establishing principles of professional ethics such as honesty, integrity, and commitment toward patients and their rights, and emphasizing the importance of maintaining confidentiality of information. C3. Strengthening social responsibility: developing a sense of responsibility toward society by providing accessible and equitable healthcare, and helping patients achieve the best health outcomes. C4. Developing awareness of cultural diversity: strengthening respect and appreciation for cultural and social differences among patients, and understanding how to provide comprehensive care that takes their cultural needs into account.	
Teaching Methods	(In-person lectures)
Assessment Methods	Daily tests, semester tests, final examinations.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Problem-solving skills: developing the ability to analyze problems related to medical conditions and develop effective treatment strategies, which helps in making fast and correct decisions in clinical environments.

D2. Critical and analytical thinking: strengthening the ability to critically evaluate clinical information and data, and examining scientific evidence to determine best practices in delivering physical therapy.

D3. Effective communication skills: improving the ability to communicate with patients and colleagues, both verbally and in writing, to ensure information is conveyed clearly and professionally.

D4. Collaboration and teamwork: developing skills for working as part of a diverse healthcare team, and strengthening collaboration with physicians, nurses, and other healthcare specialists in delivering care.

10. Course Structure					
Week	**Hours**	**Learning Outcomes**	**Unit / Topic Name**	**Teaching Method**	**Assessment Method**
1st	2 theory + 4 practical	Knowledge & Application	Introduction: Definition, indications for surgery	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
2nd	2 theory + 4 practical	Knowledge & Application	Postoperative Complications	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
3rd	2 theory + 4 practical	Knowledge & Application	Infection and Inflammation	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
4th	2 theory + 4 practical	Knowledge & Application	Wounds / Ulcers	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
5th	2 theory + 4 practical	Knowledge & Application	Complications of Immobilization	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
6th	2 theory + 4 practical	Knowledge & Application	Abdominal Surgeries for the Gastrointestinal Tract	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
7th	2 theory + 4 practical	Knowledge & Application	Genitourinary System Surgeries	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
8th	2 theory + 4 practical	Knowledge & Application	Breast Cancer and Mastectomy	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
9th	2 theory + 4 practical	Knowledge & Application	Mastectomy	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
10th	2 theory + 4 practical	Knowledge & Application	Burns: Definition, Types, Classification	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

11th	2 theory + 4 practical	Knowledge & Application	Burns: Immediate Care, Physical Therapy Management	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
12th	2 theory + 4 practical	Knowledge & Application	Skin Grafting: Indications, Types, Post-operative Care of Plastic Surgery with Specific Role of Physiotherapy	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
13th	2 theory + 4 practical	Knowledge & Application	Tendon Repair: Procedure, Recovery, Complications, Pre- and Post-operative Physical Therapy Management	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
14th	2 theory + 4 practical	Knowledge & Application	Reconstructive Surgery of Peripheral Nerves	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
15th	2 theory + 4 practical	Knowledge & Application	Revision	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Goodman, C. C., & Fuller, K. S. (2020). Pathology for the Physical Therapist Assistant (2nd ed.). Elsevier.
Main References (Sources)	Cameron, M. H. (2017). Physical Agents in Rehabilitation: From Research to Practice (5th ed.). Elsevier.
Recommended Books and References	Archives of Physical Medicine and Rehabilitation
Electronic References and Websites	American Physical Therapy Association (APTA)

Level Two

PTT204 — Physical Therapy for Diseases of the Muscular System

1. Course Name	Physical Therapy for Diseases of the Muscular System
2. Course Code	PTT204
3. Semester / Year	Second Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	30 theory hours + 60 practical hours / 4 units
7. Course Coordinator Name	Dr. Muhannad Imad Majeed

8. Course Objectives

The goals of physical therapy for diseases of the muscular system focus on improving muscle function, relieving pain, and restoring the ability for normal movement.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Understanding anatomy: identifying the anatomy of the muscular system, including the muscular and skeletal structure of muscles and their relationship to the nervous system. A2. Knowledge of muscular functions: understanding the functions of muscles and normal movement patterns, and how diseases and injuries affect these functions. A3. Understanding diseases of the muscular system: identifying the different types of muscular system diseases, such as muscular atrophy, inflammations, and hereditary disorders, and the causes and contributing factors of each. A4. Diagnosing muscular diseases: understanding the methods used in diagnosing diseases of the muscular system, including clinical examinations, medical imaging, and laboratory tests.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

B. Skill Objectives Specific to the Course

B1. Assessing patients' physical condition: developing the skill of conducting a comprehensive assessment of

patients' condition, including measuring muscle strength, range of motion, and balance. B2. Designing customized therapeutic programs: the ability to design and implement individual rehabilitation programs that meet patients' specific needs, taking into account the type and severity of the disease. B3. Implementing therapeutic exercises: mastering the correct and safe implementation of various therapeutic exercises, including muscle-strengthening and flexibility exercises. B4. Applying manual therapy techniques: developing skills in using manual therapy techniques to improve joint and muscle movement and relieve pain.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

C. Affective and Value-Based Objectives

C1. Strengthening empathy and compassion: instilling the value of empathy toward patients suffering from diseases of the muscular system, helping students understand their feelings and psychological needs during treatment. C2. Instilling ethical values: establishing principles of professional ethics, such as honesty, integrity, and respect, in dealing with patients and colleagues. C3. Strengthening social responsibility: developing a sense of responsibility toward society by providing fair and appropriate healthcare to patients and helping them improve their quality of life. C4. Developing awareness of cultural diversity: strengthening respect and appreciation for cultural and social differences among patients, and understanding how to provide care that takes their cultural needs into account.	
Teaching Methods	(In-person lectures)
Assessment Methods	Daily tests, semester tests, final examinations.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Problem-solving skills: developing the ability to analyze clinical cases and address problems related to diseases of the muscular system, contributing to making fast, effective decisions. D2. Critical thinking: strengthening critical-thinking skills through evaluating evidence and knowledge related to treating muscular system diseases, enabling students to make informed decisions. D3. Effective communication skills: improving verbal and written communication skills with patients and colleagues, strengthening the ability to convey information clearly and effectively. D4. Collaboration and teamwork: developing collaboration and teamwork skills within multidisciplinary healthcare teams, helping to provide integrated care for patients.

10. Course Structure					
Week	**Hours**	**Learning Outcomes**	**Unit / Topic Name**	**Teaching Method**	**Assessment Method**
1st	2 theory + 4 practical	Knowledge & Application	Medical Terminology	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
2nd	2 theory + 4 practical	Knowledge & Application	Patient History, Examination	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
3rd	2 theory + 4 practical	Knowledge & Application	Musculoskeletal Signs and Symptoms	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
4th	2 theory + 4 practical	Knowledge & Application	Rheumatoid Arthritis: Definition, Epidemiology, Pathology, and Pathogenesis, Clinical and Laboratory Manifestations	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
5th	2 theory + 4 practical	Knowledge & Application	Rheumatoid Arthritis: Assessment and Physical Therapy Management	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
6th	2 theory + 4 practical	Knowledge & Application	Ankylosing Spondylitis	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
7th	2 theory + 4 practical	Knowledge & Application	Psoriatic Arthritis	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
8th	2 theory + 4 practical	Knowledge & Application	Reactive Arthritis	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
9th	2 theory + 4 practical	Knowledge & Application	Systemic Lupus Erythematosus	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
10th	2 theory + 4 practical	Knowledge & Application	Systemic Sclerosis	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
11th	2 theory + 4 practical	Knowledge & Application	Polymyositis and Dermatomyositis	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
12th	2 theory + 4 practical	Knowledge & Application	Polymyalgia Rheumatica	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
13th	2 theory + 4 practical	Knowledge & Application	Gout	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

14th	2 theory + 4 practical	Knowledge & Application	Pseudogout	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
15th	2 theory + 4 practical	Knowledge & Application	General Revision	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Magee, D. J. (2014). Orthopedic Physical Assessment (6th ed.). Elsevier.
Main References (Sources)	O'Sullivan, S. B., Schmitz, T. J., & Fulk, G. D. (2019). Physical Rehabilitation (7th ed.). F.A. Davis.
Recommended Books and References	Journal of Orthopaedic & Sports Physical Therapy (JOSPT)
Electronic References and Websites	Physiopedia – Musculoskeletal Physiotherapy

Level Two

PTT205 — Primary Therapeutic Equipment

1. Course Name	Primary Therapeutic Equipment
2. Course Code	PTT205
3. Semester / Year	First Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	30 theory hours + 45 practical hours / 3 units
7. Course Coordinator Name	Dr. Muzhir Ali Abboud

8. Course Objectives

The goals of the Primary Therapeutic Equipment course in physical therapy aim to teach students and practitioners how to use various devices and techniques to improve patients' condition and accelerate the recovery process.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Understanding the different types of primary therapeutic devices: identifying the different types of devices used in primary treatment, such as electrical stimulation devices, ultrasound devices, and thermal therapy devices. A2. Knowing the physical principles: understanding the physical principles underlying treatment devices, such as how electrical current and ultrasound waves work and their effects on tissues. A3. Understanding the operating mechanism of devices: identifying how each device used in primary treatment works, including operational settings and standards. A4. Assessing treatment effectiveness: understanding how to assess the effectiveness of treatment using these devices by measuring patients' response and changes in symptoms.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

B. Skill Objectives Specific to the Course

B1. Setting up and operating devices: developing skills in properly setting up and operating primary therapeutic devices according to technical guidelines. B2. Assessing clinical condition: the ability to assess patients' clinical condition and determine appropriate treatment requirements using devices. B3. Implementing treatment: mastering the implementation of treatment using devices safely and effectively, taking into account each patient's needs. B4. Monitoring patient response: learning how to monitor patients' response during treatment and adjust settings based on their needs and progress.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

C. Affective and Value-Based Objectives

C1. Strengthening empathy and care: instilling the value of empathy toward patients, helping students understand their feelings and psychological needs during treatment. C2. Strengthening ethical values: establishing principles of professional ethics such as integrity, respect, and responsibility in dealing with patients and colleagues. C3. Developing social responsibility: strengthening a sense of responsibility toward society by providing fair and comprehensive healthcare to all patients. C4. Respecting cultural diversity: strengthening respect and appreciation for cultural and social differences, and understanding how to provide care that takes into account the needs of different patients.	
Teaching Methods	(In-person lectures)
Assessment Methods	Daily tests, semester tests, final examinations.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Communication skills: strengthening the ability to communicate effectively with patients and healthcare team members, helping convey information clearly and understand patients' needs. D2. Problem-solving skills: developing critical-thinking skills and information analysis to solve clinical problems related to the use of treatment devices. D3. Time management: learning how to manage time effectively while providing treatment, ensuring the necessary care is provided in an organized and timely manner. D4. Critical thinking: strengthening critical thinking to evaluate evidence and use information to determine the best treatment methods suited to patients.

10. Course Structure					
Week	**Hours**	**Learning Outcomes**	**Unit / Topic Name**	**Teaching Method**	**Assessment Method**

1st	2 theory + 3 practical	Knowledge & Application	Electromagnetic Waves: Electromagnetic spectrum, physical properties of electromagnetic radiation, reflection	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
2nd	2 theory + 3 practical	Knowledge & Application	Managing Pain with Therapeutic Modalities	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
3rd	2 theory + 3 practical	Knowledge & Application	Infra-Red Radiation	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
4th	2 theory + 3 practical	Knowledge & Application	Infra-Red Radiation: Technique of application, duration and frequency of treatment	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
5th	2 theory + 3 practical	Knowledge & Application	Moist Heat Therapy: Hydrocollator packs in brief, therapeutic uses, indications & contraindications	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
6th	2 theory + 3 practical	Knowledge & Application	Moist Heat Therapy: Methods of application, technique of application	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
7th	2 theory + 3 practical	Knowledge & Application	Wax Therapy	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
8th	2 theory + 3 practical	Knowledge & Application	Wax Therapy: Methods of application of wax, technique of application	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
9th	2 theory + 3 practical	Knowledge & Application	Contrast Bath	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
10th	2 theory + 3 practical	Knowledge & Application	Fluid Therapy: Construction, therapeutic uses, indications & contraindications; methods of application	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
11th	2 theory + 3 practical	Knowledge & Application	Ultraviolet Production of UVR, physiological effects of UVR	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
12th	2 theory + 3 practical	Knowledge & Application	Ultraviolet Radiation: Calculation of E1, E2, E3, E4 doses; technique to find the test dose and its importance	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
13th	2 theory + 3 practical	Knowledge & Application	Laser: Definition, types, principles of production; production of laser by various methods	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
14th	2 theory + 3 practical	Knowledge & Application	Laser: Methods of application, technique of application	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

15th	2 theory + 3 practical	Knowledge & Application	General Revision	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Cameron, M. H. (2017). Physical Agents in Rehabilitation: From Research to Practice (5th ed.). Elsevier.
Main References (Sources)	Licht, S. (2002). Therapeutic Heat and Cold (4th ed.). Williams & Wilkins.
Recommended Books and References	Physiotherapy Research International
Electronic References and Websites	American Physical Therapy Association (APTA)

Level Two

PTT206 — Specialized Treatment Devices

1. Course Name	Specialized Treatment Devices
2. Course Code	PTT206
3. Semester / Year	Second Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	30 theory hours + 45 practical hours / 3 units
7. Course Coordinator Name	Dr. Muzhir Ali Abboud

8. Course Objectives

The goals of the Specialized Treatment Devices course in the field of physical therapy focus on using advanced techniques and devices in treating complex cases and providing specialized treatments.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Understanding the types of specialized devices: identifying the different types of devices used in specialized treatments, such as ultrasound therapy devices, electrical stimulation devices, and laser devices. A2. Knowing the scientific principles: understanding the physical and biological principles underlying specialized treatment devices and their effects on tissues. A3. Understanding the operating mechanism: identifying how each device works, including the operational settings and standards needed to achieve the best therapeutic results. A4. Knowing clinical applications: understanding the various clinical applications of specialized devices, and the medical conditions that can be treated using each device.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

B. Skill Objectives Specific to the Course

B1. Setting up and operating devices: developing skills in properly setting up and operating specialized therapeutic devices according to technical guidelines.

B2. Assessing clinical condition: the ability to assess patients' clinical condition and determine appropriate treatment requirements using devices. B3. Implementing treatment: mastering the safe and effective implementation of treatment using specialized devices, taking into account each patient's needs. B4. Monitoring patient response: learning how to monitor patients' response during treatment and adjust settings based on their needs and progress.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

C. Affective and Value-Based Objectives

C1. Strengthening empathy: instilling the value of empathy and the ability to understand patients' feelings and needs, contributing to providing humane and compassionate healthcare. C2. Developing ethical values: strengthening integrity, respect, and responsibility in dealing with patients and colleagues, contributing to a positive work environment. C3. Strengthening social responsibility: developing a sense of responsibility toward society by providing fair and comprehensive healthcare to all patients, regardless of their backgrounds. C4. Respecting cultural diversity: strengthening the value of respect for cultural and social diversity, and understanding how to provide healthcare that takes into account each patient's needs.	
Teaching Methods	(In-person lectures)
Assessment Methods	Daily tests, semester tests, final examinations.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Effective communication skills: developing the ability to communicate clearly and effectively with patients and colleagues, contributing to improving the treatment experience. D2. Problem-solving skills: strengthening critical-thinking and information-analysis skills to solve clinical problems that may face students while using devices. D3. Time management: learning how to organize time effectively while delivering treatment, ensuring the necessary care is provided at the appropriate time. D4. Critical thinking: strengthening the ability to think critically to evaluate information and evidence and choose the best therapeutic practices.

10. Course Structure					
Week	**Hours**	**Learning Outcomes**	**Unit / Topic Name**	**Teaching Method**	**Assessment Method**

1st	2 theory + 3 practical	Knowledge & Application	Introduction to Physical Therapy Modalities	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
2nd	2 theory + 3 practical	Knowledge & Application	Electrotherapy Equipment	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
3rd	2 theory + 3 practical	Knowledge & Application	Thermotherapy and Cryotherapy Devices	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
4th	2 theory + 3 practical	Knowledge & Application	Therapeutic Exercise Devices	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
5th	2 theory + 3 practical	Knowledge & Application	Hydrotherapy Devices	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
6th	2 theory + 3 practical	Knowledge & Application	Laser and Light Therapy Devices	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
7th	2 theory + 3 practical	Knowledge & Application	Introduction to Phototherapy	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
8th	2 theory + 3 practical	Knowledge & Application	Prosthetic Devices	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
9th	2 theory + 3 practical	Knowledge & Application	Traction Therapy Devices	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
10th	2 theory + 3 practical	Knowledge & Application	Orthotics and Prosthetics	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
11th	2 theory + 3 practical	Knowledge & Application	Robotic and Advanced Rehabilitation Devices	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
12th	2 theory + 3 practical	Knowledge & Application	Clinical Practicum	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
13th	2 theory + 3 practical	Knowledge & Application	Traction Therapy Devices (cont.)	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
14th	2 theory + 3 practical	Knowledge & Application	Patient Safety and Equipment Maintenance	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

15th	2 theory + 3 practical	Knowledge & Application	Ethical Considerations in Device Use	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Prentice, W. E. (2015). Therapeutic Modalities in Rehabilitation (4th ed.). McGraw-Hill.
Main References (Sources)	Kitchen, S., & Bazin, S. (2015). Clayton's Electrotherapy (13th ed.). Elsevier.
Recommended Books and References	Journal of Electromyography and Kinesiology
Electronic References and Websites	American Physical Therapy Association (APTA)

Level Two

PTT207 — Pathology

1. Course Name	Pathology
2. Course Code	PTT207
3. Semester / Year	First Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	30 theory hours / 2 units
7. Course Coordinator Name	Lect. Amna Muhanad Abdul-Rahman

8. Course Objectives

The goals of Pathology include understanding disease processes and analyzing the causes and effects of diseases on the human body. This science plays a fundamental role in diagnosing diseases, guiding treatment, and understanding how to prevent diseases.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Understanding the scientific foundations: studying the scientific foundations related to pathology, including basic definitions and concepts. A2. Knowledge of disease types: identifying the different types of diseases, including infectious diseases, chronic diseases, and tumors. A3. Understanding pathological mechanisms: studying the biological and physiological mechanisms that lead to the occurrence of diseases and how they affect the vital functions of the body. A4. Knowledge of causative factors: understanding the factors causing diseases, including genetic, environmental, and behavioral factors.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

B. Skill Objectives Specific to the Course

B1. Analyzing clinical data: developing skills in analyzing patients' clinical data, including signs, symptoms, and medical history.

B2. Performing laboratory tests: mastering the skills of performing laboratory tests and analyzing their results to diagnose diseases. B3. Interpreting diagnostic tests: developing the ability to interpret the results of tests and medical reports, such as imaging and laboratory analyses. B4. Identifying pathological signs: improving skills in recognizing pathological signs in clinical presentations and how to assess them.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

C. Affective and Value-Based Objectives

C1. Strengthening empathy: instilling the value of empathy and the ability to understand the feelings of patients and their families, which contributes to providing humane healthcare. C2. Developing ethical values: strengthening integrity, respect, and responsibility in dealing with sensitive information related to patients' health. C3. Strengthening social responsibility: developing a sense of responsibility toward society by understanding the impact of diseases on public health and how to contribute to improving it. C4. Respecting cultural diversity: strengthening the value of respect for cultural and social diversity and understanding how cultural backgrounds affect perceptions related to health and disease.	
Teaching Methods	(In-person lectures)
Assessment Methods	Daily tests, semester tests, final examinations.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Effective communication skills: developing the ability to communicate clearly and effectively with patients and colleagues, contributing to improving the healthcare experience. D2. Problem-solving skills: strengthening critical-thinking and information-analysis skills to solve clinical problems that may face students while studying pathology. D3. Time management: learning how to organize time effectively while studying and conducting research, ensuring academic goals are achieved. D4. Critical thinking: strengthening the ability to think critically to evaluate information and evidence and choose the best clinical practices.

10. Course Structure					
Week	**Hours**	**Learning Outcomes**	**Unit / Topic Name**	**Teaching Method**	**Assessment Method**

1st	2 theory	Knowledge	Introduction: Aims and objects of the study of pathology. Definitions of health, disease, causes of disease.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
2nd	2 theory	Knowledge	Inflammation & Repair (Acute Inflammation)	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
3rd	2 theory	Knowledge	Inflammation & Repair (Chronic Inflammation)	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
4th	2 theory	Knowledge	Wound Healing by Primary & Secondary Union, Factors Promoting Healing	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
5th	2 theory	Knowledge	Circulatory Disturbances – Edema: pathogenesis, types, transudates/exudates. Chronic congestion.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
6th	2 theory	Knowledge	Neoplastic Disorders	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
7th	2 theory	Knowledge	Bone & Joints	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
8th	2 theory	Knowledge	Bone & Joints: PID, scoliosis, hemarthrosis, gout, TB arthritis, degenerative, inflammatory, RA	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
9th	2 theory	Knowledge	Muscle Diseases	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
10th	2 theory	Knowledge	Neuromuscular Junction	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
11th	2 theory	Knowledge	GI Tract System	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
12th	2 theory	Knowledge	Urinary System	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
13th	2 theory	Knowledge	Deficiency Disorders – Vitamins A, B, C, D	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
14th	2 theory	Knowledge	Growth Disturbance	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

15th	2 theory	Knowledge	Endocrine: Hyperthyroidism, Diabetes. Infections: cutaneous TB, leprosy, alopecia.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Kumar, V., Abbas, A. K., & Aster, J. C. (2018). Robbins Basic Pathology (10th ed.). Elsevier.
Main References (Sources)	Underwood, J., & Cross, S. (2018). General and Systematic Pathology (6th ed.). Elsevier.
Recommended Books and References	Journal of Pathology
Electronic References and Websites	World Health Organization (WHO) – Pathology & Disease

Level Two

PTT208 — Pharmacology

1. Course Name	Pharmacology
2. Course Code	PTT208
3. Semester / Year	Second Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	30 theory hours / 2 units
7. Course Coordinator Name	Assist. Prof. Dr. Ahmed Mousa Khalaf

8. Course Objectives

The goals of Pharmacology focus on studying the effects of drugs on the body and how they are used to treat diseases. This course aims to develop a comprehensive understanding of how drugs work, appropriate dosages, and their side effects.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Understanding the basic principles of pharmacology: introducing students to the fundamentals of pharmacology, including basic terms such as drug, drug toxicity, dose, and efficacy; understanding the biological processes that affect drug absorption, distribution, metabolism, and excretion (ADME). A2. Understanding the mechanism of drug action: studying the mechanism of drug action at the cellular, tissue, and organ level; identifying the different types of drug receptors and how drugs affect these receptors to modify physiological activity. A3. The interaction between drugs and biological systems: understanding how drugs affect different biological systems (such as the central nervous system, cardiovascular system, and immune system); identifying the potential side effects of drugs and how to control them. A4. Developing the ability to use drugs safely and effectively: studying the clinical use of drugs and how to select the appropriate dose for each patient based on their health condition; identifying drug interactions and how to avoid them to ensure safe and effective drug use.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.

Assessment Methods	Daily tests, semester tests, final examinations.

B. Skill Objectives Specific to the Course

B1. Developing skills for selecting appropriate drugs: the ability to assess the patient's condition and select the most suitable drug based on medical diagnosis; the skill of determining the appropriate dose based on patient characteristics (such as age, weight, health condition) and safety standards. B2. Analyzing drug interactions: acquiring the ability to analyze potential interactions between different drugs to avoid adverse reactions; the skill of identifying interactions between drugs and health conditions (such as liver or kidney disease) and their effect on the required dose. B3. Assessing drug side effects: developing the skill of recognizing drug side effects and identifying potential adverse symptoms; the ability to modify treatment based on the patient's response to drugs and avoid complications. B4. Performing dosage calculations: acquiring the ability to calculate doses based on various criteria such as weight, age, and vital functions; the skill of adjusting doses according to changes in patient response or the appearance of side effects.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

C. Affective and Value-Based Objectives

C1. Strengthening a sense of ethical responsibility: developing a sense of responsibility toward using drugs safely and effectively, in order to protect patients' health and reduce risks associated with drug treatments; adhering to ethical standards in prescribing drugs, including avoiding overprescription or unconsidered drug use. C2. Appreciating the importance of drug safety: instilling values of care for patient safety by applying correct practices in prescribing drugs and monitoring side effects and drug interactions; strengthening awareness of the importance of reporting medication errors and how to handle them to prevent recurrence. C3. Commitment to continuous learning: developing a positive attitude toward continuous learning and seeking new knowledge in the field of pharmacology, by following clinical studies and recent scientific research; recognizing the importance of continuously updating information about new drugs and developments in drug therapy.

C4. Strengthening empathy and concern for patient care: strengthening values of empathy and personal concern for each patient's condition, by selecting drugs suited to their individual health condition and listening to their concerns and questions about treatment; appreciating the importance of clear communication with patients about how to use medications and potential side effects, which helps build a relationship of trust between the patient and the physician.	
Teaching Methods	(In-person lectures)
Assessment Methods	Daily tests, semester tests, final examinations.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Problem-solving skills: developing the ability to analyze complex clinical cases and select the appropriate drug treatment based on patient data; strengthening critical thinking to solve problems related to dosages, drug interactions, and side effects.

D2. Analytical thinking: the ability to analyze pharmacological data and information logically to understand how drugs work and their effects; developing the skill of evaluating scientific evidence and research studies to make decisions based on reliable information.

D3. Effective communication: improving verbal and written communication skills to interact effectively with colleagues in the medical team and with patients; the ability to clearly present medical and pharmacological information to patients from different backgrounds in an easily understandable way.

D4. Teamwork and collaboration: developing skills for working within a multidisciplinary medical team, including collaboration with pharmacists, physicians, and nurses to ensure comprehensive patient care; the ability to exchange information and coordinate with colleagues to ensure well-considered treatment decisions.

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	2 theory	Knowledge	Pharmacology – General Principles of Pharmacology	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
2nd	2 theory	Knowledge	Drugs Acting on the Cardiovascular System	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
3rd	2 theory	Knowledge	Drugs Affecting the Autonomic Nervous System	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
4th	2 theory	Knowledge	Drugs Affecting the Central Nervous System – Anxiolytic and Hypnotic Analgesics	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
5th	2 theory	Knowledge	General Anesthetics (Inhaled and Intravenous) – Local Anesthesia	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

6th	2 theory	Knowledge	Drugs Affecting the Endocrine System, Hormones	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
7th	2 theory	Knowledge	Drugs Acting on the Digestive System: Antacids – Gastric Agents	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
8th	2 theory	Knowledge	Peptic Ulcer Treatment – Laxatives – Purgatives – Antidiarrheal Agents – Digestives – Antiemetics – Antiflatulents	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
9th	2 theory	Knowledge	Drugs Acting on the Respiratory System	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
10th	2 theory	Knowledge	Analgesics (Non-opioids) – Anti-inflammatory Drugs – Steroidal and Non-Steroidal Anti-Inflammatory Drugs (NSAIDs)	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
11th	2 theory	Knowledge	Antibiotics and Antibacterial Agents	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
12th	2 theory	Knowledge	Antibiotics and Antibacterial Agents – Classification, Spectrum, Therapeutic Uses, Side Effects. Antiseptics and Disinfectants: Types and Uses	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
13th	2 theory	Knowledge	Antiviral Agents – Antifungal – Antiparasitic Agents: Cancer Chemotherapy and Immunopharmacology	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
14th	2 theory	Knowledge	Toxicology: Toxic Doses – Lethal Doses – Therapeutic Index	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
15th	2 theory	Knowledge	Revision	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Katzung, B. G., & Vanderah, T. W. (2020). Basic and Clinical Pharmacology (15th ed.). McGraw-Hill.
Main References (Sources)	Benowitz, N. L. (2018). Clinical Pharmacology. McGraw-Hill.
Recommended Books and References	European Journal of Pharmacology

Electronic References and Websites	PubMed – Pharmacology Research

Level Two

PTT209 — Physiotherapy for Orthopedics

1. Course Name	Physiotherapy for Orthopedics
2. Course Code	PTT209
3. Semester / Year	Second Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	30 theory hours + 45 practical hours / 3 units
7. Course Coordinator Name	Dr. Salam Muhanad Salman

8. Course Objectives

The goals of physical therapy in orthopedics relate to promoting healing and improving the function of muscles, bones, and joints after injuries or surgeries.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Understanding the scientific foundations of physical therapy: introducing students to the basic concepts of physical therapy and its role in treating bone and musculoskeletal problems; understanding the physiological and anatomical principles related to the musculoskeletal system and how it is affected by injuries and diseases.

A2. Understanding bone injuries and diseases: studying common bone injuries such as fractures, sprains, and ligament injuries, and knowing how they affect movement and physical functions; identifying chronic bone diseases such as arthritis and osteoporosis and how to manage them using physical therapy techniques.

A3. Identifying the methods and techniques used in physical therapy: understanding a variety of physical therapy techniques such as therapeutic exercises, therapeutic massage, and manual techniques for treating bone diseases and injuries; identifying methods of using modern electrical and technological devices to enhance physical therapy for orthopedic patients.

A4. Understanding musculoskeletal assessment: acquiring knowledge related to assessing musculoskeletal status through movement tests and clinical diagnosis; learning how to use diagnostic examinations to determine the extent to which an injury or disease affects movement and the functions of muscles and joints.

Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

B. Skill Objectives Specific to the Course

B1. Assessing musculoskeletal status: the ability to conduct a complete clinical assessment of patients, including assessing muscle strength, joint range of motion, and functional balance; using movement and diagnostic examinations such as gait testing, mobility assessment, and flexibility tests to identify musculoskeletal problems. B2. Designing individual treatment plans: acquiring the skill of developing a customized physical therapy plan for each patient based on their health condition and diagnostic assessments; setting realistic short- and long-term therapeutic goals, taking into account the patient's individual needs and health conditions. B3. Applying physical therapy techniques: mastering physical therapy techniques used in orthopedics, such as therapeutic exercises, therapeutic massage, manual therapy, and stretching techniques; the ability to use modern devices and techniques, such as electrotherapy, ultrasound, and laser therapy to improve treatment outcomes. B4. Pain management and control: developing skills in using physical therapy techniques to control pain caused by bone injuries or diseases, including therapeutic exercises and heat or cold therapy; acquiring the ability to assess pain severity and its effect on the patient's movement and functional capacity, and selecting appropriate methods to relieve it.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

C. Affective and Value-Based Objectives

C1. Strengthening a sense of ethical and professional responsibility: strengthening commitment to medical ethics principles when providing physical therapy, including confidentiality, integrity, and good treatment of the patient; a sense of responsibility toward providing healthcare based on respecting patients' rights and safety. C2. Empathy with patients and concern for their care: instilling values of empathy with patients and understanding their emotional and psychological needs during treatment; developing a humane attitude that reflects genuine concern for the patient's health and

providing the necessary psychological and moral support during treatment stages. C3. Commitment to continuous learning and self-development: strengthening the desire for continuous learning and updating knowledge in the field of physical therapy and orthopedics to ensure the best healthcare is provided; the student's commitment to developing their skills and knowledge in line with the latest scientific and technical developments in the field. C4. Strengthening teamwork and a spirit of cooperation: encouraging effective collaboration with members of the medical team and appreciating the role of each specialty in improving the patient's condition; developing the ability to work as a team and respect colleagues' opinions, with a focus on achieving the best therapeutic outcomes for the patient through the exchange of knowledge and experience.	
Teaching Methods	(In-person lectures)
Assessment Methods	Daily tests, semester tests, final examinations.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Critical thinking and problem-solving: the ability to analyze complex medical cases and select appropriate therapeutic methods based on an accurate assessment of the condition; strengthening problem-solving skills systematically using critical thinking to make evidence-based decisions.
D2. Effective communication skills: developing the ability to communicate effectively with patients and members of the medical team in a clear, professional manner, whether verbally or in writing; the ability to explain complex medical information to patients in simplified language and provide consultations in an understandable, supportive way.
D3. Teamwork and interdisciplinary collaboration: the skill of working within a multidisciplinary medical team and collaborating with various healthcare professionals to ensure the best care is provided to the patient; the ability to interact positively with colleagues and contribute to achieving shared therapeutic goals.
D4. Time management and task organization: the ability to organize time effectively and handle multiple workloads by prioritizing to ensure care is provided in a timely manner; strengthening personal organizational skills to ensure tasks and practical commitments are completed within specified times.

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	2 theory + 3 practical	Knowledge & Application	Anatomy of Bone	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
2nd	2 theory + 3 practical	Knowledge & Application	Fractures: Definition, Types of Bone Fracture, Pathophysiology of Bone Healing	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
3rd	2 theory + 3 practical	Knowledge & Application	Fractures: Clinical Features, Factors Affecting Healing, Radiological Features	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

4th	2 theory + 3 practical	Knowledge & Application	Fractures: Outlines of Treatment and Prognosis	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
5th	2 theory + 3 practical	Knowledge & Application	Fractures: Assessment, Physiotherapy	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
6th	2 theory + 3 practical	Knowledge & Application	Fractures: Complications, Rehabilitation	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
7th	2 theory + 3 practical	Knowledge & Application	Specific Fractures and Dislocations	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
8th	2 theory + 3 practical	Knowledge & Application	Total Knee Replacement: Definition, Indications, Complications, Pre-operative Assessment, Pre-surgical Physiotherapy	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
9th	2 theory + 3 practical	Knowledge & Application	Total Knee Replacement: Post-surgical Physiotherapy, Outcome Measures	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
10th	2 theory + 3 practical	Knowledge & Application	Total Hip Replacement: Definition, Indications, Complications, Surgical Approaches	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
11th	2 theory + 3 practical	Knowledge & Application	Total Hip Replacement: Post-surgical Physiotherapy, Outcome Measures	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
12th	2 theory + 3 practical	Knowledge & Application	Shoulder Instabilities	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
13th	2 theory + 3 practical	Knowledge & Application	Shoulder Joint	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
14th	2 theory + 3 practical	Knowledge & Application	Deformities of the Lower Limb	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
15th	2 theory + 3 practical	Knowledge & Application	Benign and Malignant Bone Tumors	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

11. Course Assessment

Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources

Required Textbooks	Magee, D. J. (2014). Orthopedic Physical Assessment (6th ed.). Elsevier.
Main References (Sources)	Brukner, P., & Khan, K. (2016). Brukner & Khan's Clinical Sports Medicine: Injuries, Volume 1 (5th ed.). McGraw-Hill.
Recommended Books and References	Journal of Orthopedic & Sports Physical Therapy (JOSPT)
Electronic References and Websites	American Physical Therapy Association (APTA)

Level Two

PTT210 — Human Anatomy

1. Course Name	Human Anatomy
2. Course Code	PTT210
3. Semester / Year	First Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	30 theory hours + 45 practical hours / 3 units
7. Course Coordinator Name	Lect. Muhannad Imad Majeed

8. Course Objectives

The goals of Human Anatomy focus on understanding the structure of the human body and how it is organized and functions.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Understanding the anatomical foundations of the human body: acquiring basic knowledge of the anatomical structures of the human body, including bones, muscles, blood vessels, nerves, and internal organs; identifying the anatomical organization of the human body and its division into systems (such as the muscular, skeletal, circulatory, and nervous systems). A2. Identifying the major organs and their functions: understanding the location and function of vital organs such as the heart, lungs, liver, kidneys, and brain; identifying how these organs interact with each other to maintain the vital functions of the body. A3. Studying anatomical structures in the musculoskeletal system: studying the bones, joints, and major muscles that form the human skeleton, and understanding their role in movement and support; identifying the relationships between bones and muscles and how they work together to provide movement. A4. Identifying surface anatomy: identifying the surface anatomy of the body and locating prominent anatomical structures that can be felt or seen through the skin; understanding how to use surface landmarks in clinical examinations.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.

Assessment Methods	Daily tests, semester tests, final examinations.

B. Skill Objectives Specific to the Course

B1. The ability to identify anatomical structures: acquiring the ability to identify the different anatomical structures of the human body through practical examination of cadavers or anatomical models; developing the skill of distinguishing between bones, muscles, internal organs, and blood vessels in the human body. B2. Using anatomical tools: learning how to use anatomical tools safely and accurately in anatomy studies; acquiring the skill of performing simple dissection of tissues and structures to display the anatomical details of different organs and systems. B3. Analyzing anatomical medical images: the ability to read and interpret anatomical images such as X-rays, MRI, and CT scans; learning how to link theoretical information to practical applications by analyzing clinical images of real patients. B4. Identifying basic anatomical sites: acquiring the skill of identifying surface anatomical landmarks and locating important internal structures in the human body; the ability to use this knowledge in clinical examination to locate organs and bones during physical examination.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

C. Affective and Value-Based Objectives

C1. Strengthening values of respect and appreciation for the human body: developing a deep understanding of the importance of the human body as a value that must be respected and protected, including recognizing the importance of preserving the integrity of tissues and organs; strengthening awareness of the importance of respecting human privacy when dealing with anatomical structures. C2. Encouraging ethical thinking: developing the ability to think ethically when dealing with anatomical information, especially when dealing with cadavers or anatomical models; strengthening ethical responsibility in using anatomical information appropriately and fairly in medical contexts. C3. Strengthening a spirit of cooperation and participation: encouraging teamwork and collaboration among students, which helps strengthen human relationships and positive interaction in learning environments; strengthening the value of exchanging

knowledge and experiences through group discussions and teamwork. C4. Positive interaction with patients: strengthening human values in dealing with patients, including empathy, patience, and respect, which contributes to improving patients' experiences; developing emotional communication skills that help build relationships of trust with patients, contributing to providing comprehensive healthcare.	
Teaching Methods	(In-person lectures)
Assessment Methods	Daily tests, semester tests, final examinations.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Effective communication skills: improving the ability to communicate clearly and effectively with colleagues, instructors, and patients, including the accurate use of medical terminology; learning how to present information in an understandable, smooth way during presentations or lectures.
D2. Teamwork skills: strengthening the ability to work effectively within multidisciplinary teams, facilitating collaboration in medical work environments; developing active-listening skills and respect for others' opinions, contributing to achieving shared goals.
D3. Research and analysis skills: strengthening the ability to search for information related to anatomy from reliable sources and analyze data critically; developing skills in analyzing medical information and using it in clinical contexts.
D4. Time-management skills: learning how to organize time effectively between study, practical activities, and other commitments; improving the ability to set priorities and manage tasks to achieve academic and professional goals.

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	2 theory + 3 practical	Knowledge & Application	Nervous System: Central Nervous System – Disposition	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
2nd	2 theory + 3 practical	Knowledge & Application	Nervous System: Cerebrum, Cerebellum, Thalamus, Hypothalamus, Internal Capsule, Blood Supply of Brain	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
3rd	2 theory + 3 practical	Knowledge & Application	Cardiovascular System: Comprehending the external and internal features of the structure of the heart and their implications	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
4th	2 theory + 3 practical	Knowledge & Application	Cardiovascular System: Internal features of the chambers of the heart; basic features of the blood	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
5th	2 theory + 3 practical	Knowledge & Application	Cardiovascular System: Coronary arteries and coronary sinus; parts of the conducting system of the heart	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

6th	2 theory + 3 practical	Knowledge & Application	Nervous System: Autonomic nervous system, its components, nerve receptors	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
7th	2 theory + 3 practical	Knowledge & Application	Spinal Cord	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
8th	2 theory + 3 practical	Knowledge & Application	Lymphatic System	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
9th	2 theory + 3 practical	Knowledge & Application	Respiratory System	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
10th	2 theory + 3 practical	Knowledge & Application	Endocrine System	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
11th	2 theory + 3 practical	Knowledge & Application	Genitourinary System	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
12th	2 theory + 3 practical	Knowledge & Application	Digestive System	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
13th	2 theory + 3 practical	Knowledge & Application	Embryology: Development of bones, axial and appendicular skeleton, and muscles	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
14th	2 theory + 3 practical	Knowledge & Application	Embryology: Ovum, spermatozoa, fertilization, and formation of the germ layers and their derivatives	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
15th	2 theory + 3 practical	Knowledge & Application	Revision	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Drake, R. L., Vogl, W., & Mitchell, A. W. M. (2019). Gray's Anatomy for Students (4th ed.). Elsevier.
Main References (Sources)	Snell, R. S. (2011). Clinical Anatomy by Systems. Lippincott Williams & Wilkins.
Recommended Books and References	Journal of Anatomy

Electronic References and Websites	Visible Body – Anatomy Learning Tools

Level Three

MTCD301 — Computer Applications

1. Course Name	Computer Applications
2. Course Code	MTCD301
3. Semester / Year	First Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person theoretical and practical lectures
6. Credit Hours / Units	1 theory hour + 2 practical hours / 2 units
7. Course Coordinator Name	Assist. Prof. Mazin Nadheer Farhan

8. Course Objectives

This course aims to provide Level 3 students with advanced technical skills in employing specialized computer software to serve clinical and research practice in physical therapy, through training in SPSS for basic statistical analysis, digital patient data management (EMR) applications, advanced clinical and research report-preparation tools, and employing interactive presentation and digital design software in preparing educational and health-awareness materials.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Identifying the SPSS interface and the principles of data entry, variable coding, and classification. A2. Understanding the principles of basic descriptive and inferential statistics and applying them through SPSS (frequency distribution, t-test, chi-square). A3. Grasping the principles of Electronic Medical Records (EMR) systems and their applications in patient-care documentation. A4. Recognizing the principles of digital design for educational and health-awareness materials and employing modern interactive presentation tools.	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, hands-on computer application, group discussions.
Assessment Methods	Daily tests, semester exams, final written and practical exams, weekly reports.

B. Skill Objectives Specific to the Course

B1. Entering, cleaning, and coding clinical and research data in SPSS accurately and professionally.

B2. Applying basic statistical tests (descriptive, t-test, chi-square, correlation) and interpreting their output clinically and academically. B3. Employing a basic electronic health records system to record patient data and monitor their treatment progress. B4. Designing interactive digital educational or health-awareness material (brochure, presentation, infographic) directed at patients or the general public.	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, hands-on computer application, group discussions.
Assessment Methods	Daily tests, semester exams, final written and practical exams, weekly reports.

C. Affective and Value-Based Objectives

C1. Strengthening precision and objectivity in handling and interpreting statistical data without bias or hasty conclusions. C2. Instilling commitment to protecting the privacy of digital patient data according to approved ethical and legal frameworks. C3. Developing creativity and innovation in designing engaging and impactful digital educational and health-awareness materials. C4. Encouraging the student toward digital transformation in professional practice and keeping pace with modern healthcare software.	
Teaching Methods	(In-person lectures), practical applications, group discussions.
Assessment Methods	Daily, semester, and final examinations; evaluation of practical applications.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Developing applied statistical-analysis skills and employing them in analyzing graduation research project data in the future. D2. Acquiring skills for dealing with digital health information systems used in modern clinical work environments. D3. Refining visual-design and effective digital-communication skills in preparing health-awareness content. D4. Preparing the student to engage efficiently in the advanced digital work environment of Iraqi and international health institutions.

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	1 theory + 2 practical	Knowledge & Application	Introduction to SPSS: Interface overview. Data view vs. variable view.	Hands-on SPSS computer practice	Reports, exams

			Importing data from Excel. Variable types and coding.		
2nd	1 theory + 2 practical	Knowledge & Application	Data Entry and Cleaning in SPSS: Entering clinical data. Handling missing values. Data cleaning and validation techniques.	Hands-on SPSS computer practice	Reports, exams
3rd	1 theory + 2 practical	Knowledge & Application	Descriptive Statistics in SPSS: Frequencies, measures of central tendency and dispersion. Generating frequency tables and histograms.	Hands-on SPSS computer practice	Reports, exams
4th	1 theory + 2 practical	Knowledge & Application	Data Visualization in SPSS: Bar charts, pie charts, box plots. Customizing charts for clinical and research reports.	Hands-on SPSS computer practice	Reports, exams
5th	1 theory + 2 practical	Knowledge & Application	Inferential Statistics – t-test: Independent samples t-test, paired samples t-test. Interpreting p-values and clinical significance.	Hands-on SPSS computer practice	Reports, exams
6th	1 theory + 2 practical	Knowledge & Application	Inferential Statistics – Chi-Square and Correlation: Chi-square test of independence. Pearson and Spearman correlation. Practical examples.	Hands-on SPSS computer practice	Reports, exams
7th	1 theory + 2 practical	Knowledge & Application	Generating SPSS Output Reports: Exporting tables and charts. Formatting output for inclusion in academic reports and presentations.	Hands-on SPSS computer practice	Reports, exams
8th	1 theory + 2 practical	Knowledge & Application	Midterm Review: Comprehensive SPSS skills review. Midterm practical and theoretical examination.	Comprehensive review	Semester exam
9th	1 theory + 2 practical	Knowledge & Application	Introduction to Electronic Medical Records (EMR): Concepts and components. Benefits and challenges of EMR adoption in Iraqi healthcare.	Whiteboard, PowerPoint slides	Reports, exams
10th	1 theory + 2 practical	Knowledge & Application	EMR Practical Application: Patient registration, documentation of assessment and treatment notes in a simulated EMR system.	Hands-on EMR simulation	Reports, exams
11th	1 theory + 2 practical	Knowledge & Application	Data Privacy and Cybersecurity in Healthcare IT: Patient data confidentiality. HIPAA-equivalent principles. Common cybersecurity threats in healthcare.	Whiteboard, PowerPoint slides	Reports, exams
12th	1 theory + 2 practical	Knowledge & Application	Digital Health Education Design – Part 1: Principles of effective health communication design. Infographic design basics (Canva or similar tools).	Hands-on digital design	Reports, exams
13th	1 theory + 2 practical	Knowledge & Application	Digital Health Education Design – Part 2: Designing an interactive patient education brochure or digital presentation on a chosen PT topic.	Hands-on digital design	Reports, exams
14th	1 theory + 2 practical	Knowledge & Application	Integrated Capstone Project: Students integrate SPSS analysis with a digital health education output for a mock case study.	Hands-on integrated project	Reports, exams

15th	1 theory + 2 practical	Knowledge & Application	Final Project Presentations and Comprehensive Review: Student presentations of capstone projects. Final exam preparation.	Student presentations, review	Comprehensive exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Field, A. (2017). Discovering Statistics Using IBM SPSS Statistics (5th ed.). Sage Publications.
Main References (Sources)	Pallant, J. (2020). SPSS Survival Manual: A Step by Step Guide to Data Analysis (7th ed.). Routledge.
Recommended Books and References	Wager, K. A., Lee, F. W., & Glaser, J. P. (2017). Health Care Information Systems: A Practical Approach for Health Care Management (4th ed.). Jossey-Bass. Journal of Medical Internet Research (JMIR).
Electronic References and Websites	IBM SPSS Documentation: ibm.com/products/spss-statistics; HealthIT.gov – EMR Resources: healthit.gov

Level Three

MTCD302 — Laboratory Safety

1. Course Name	Laboratory Safety
2. Course Code	MTCD302
3. Semester / Year	Second Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person theoretical and practical lectures
6. Credit Hours / Units	1 theory hour + 2 practical hours / 2 units
7. Course Coordinator Name	Assist. Prof. Mazin Nadheer Farhan

8. Course Objectives

This course aims to provide Level 3 students with the knowledge and basic skills to ensure occupational safety in the clinical and rehabilitation laboratory environments of the Department of Physical Therapy, through understanding general safety standards and electrical, thermal, and biological hazards associated with therapeutic devices and laboratory equipment, applying prevention and emergency-response protocols, and recognizing the legislative and professional frameworks governing safety in the healthcare work environment, thereby qualifying the student for safe professional practice that protects the patient, the therapist, and the work team.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Identifying the general principles of occupational safety in clinical and rehabilitation laboratories and the standards of relevant international organizations (OSHA, WHO). A2. Understanding the electrical and thermal hazards associated with therapeutic devices (electrical, ultrasound, laser) and methods of prevention. A3. Grasping the principles of infection control and dealing with biohazards and sharp medical waste in the laboratory environment. A4. Recognizing laboratory emergency-response protocols (fires, electrical shock, chemical spills) and the legislative framework governing occupational safety.	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, hands-on computer application, group discussions.
Assessment Methods	Daily tests, semester exams, final written and practical exams, weekly reports.

B. Skill Objectives Specific to the Course

B1. Applying pre-use safety check procedures for therapeutic devices and laboratory equipment before use. B2. Correctly using personal protective equipment (PPE) and safely handling biological and chemical hazards in the laboratory environment. B3. Applying first-response protocols for laboratory emergencies (fire, electrical shock, chemical injury) efficiently and quickly. B4. Preparing a safety incident report according to approved professional standards and documenting the safety measures taken.	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, hands-on computer application, group discussions.
Assessment Methods	Daily tests, semester exams, final written and practical exams, weekly reports.

C. Affective and Value-Based Objectives

C1. Instilling a sense of professional and personal responsibility toward the safety of oneself, the patient, and colleagues in the laboratory and clinic environment. C2. Strengthening strict commitment to safety procedures without compromise or laxity, even under work pressure. C3. Developing professional vigilance and the ability to anticipate potential hazards before they occur (proactive safety mindset). C4. Encouraging the student to spread a culture of safety among colleagues and patients and establish it as a fundamental institutional value.	
Teaching Methods	(In-person lectures), practical applications, group discussions.
Assessment Methods	Daily, semester, and final examinations; evaluation of practical applications.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Developing rapid risk-assessment skills in different healthcare work environments. D2. Acquiring effective communication skills in emergencies and coordinating with the institutional safety and emergency team. D3. Refining professional documentation skills for safety incidents and the prevention measures taken, accurately and systematically. D4. Preparing the student to take on occupational safety responsibilities in future clinical and laboratory work environments with confidence and competence.

10. Course Structure					
Week	**Hours**	**Learning Outcomes**	**Unit / Topic Name**	**Teaching Method**	**Assessment Method**

1st	1 theory + 2 practical	Knowledge	Introduction to Laboratory Safety: Importance of safety culture. Overview of international safety standards (OSHA, WHO). General lab safety rules.	Whiteboard, PowerPoint slides	Reports, exams
2nd	1 theory + 2 practical	Knowledge	Electrical Safety in Therapeutic Equipment: Electrical hazards in electrotherapy devices. Grounding, insulation, and equipment inspection basics.	Hands-on lab practice	Reports, exams
3rd	1 theory + 2 practical	Knowledge & Application	Thermal and Radiation Safety: Hazards of heat therapy, ultrasound, laser devices. Safe operating distances and exposure limits.	Hands-on lab practice	Reports, exams
4th	1 theory + 2 practical	Knowledge & Application	Pre-Use Equipment Safety Checks: Practical checklist for inspecting therapeutic devices before patient use. Identifying faulty equipment signs.	Hands-on lab practice	Reports, exams
5th	1 theory + 2 practical	Knowledge & Application	Personal Protective Equipment (PPE): Types of PPE (gloves, masks, gowns, eyewear). Correct donning and doffing procedures.	Hands-on lab practice	Reports, exams
6th	1 theory + 2 practical	Knowledge & Application	Infection Control in Laboratory Settings: Standard precautions. Disinfection and sterilization of equipment. Hand hygiene protocols.	Hands-on lab practice	Reports, exams
7th	1 theory + 2 practical	Knowledge & Application	Biohazard and Sharps Waste Management: Classification of medical waste. Safe disposal of sharps and biohazardous materials. Color-coded waste bins.	Hands-on lab practice	Reports, exams
8th	1 theory + 2 practical	Knowledge & Application	Midterm Review: Comprehensive review of electrical, thermal, infection control, and PPE topics. Midterm examination.	Comprehensive review	Semester exam
9th	1 theory + 2 practical	Knowledge & Application	Fire Safety in Healthcare Facilities: Fire hazard classification. Use of fire extinguishers. Evacuation procedures and fire drills.	Hands-on lab practice, evacuation drill	Reports, exams
10th	1 theory + 2 practical	Knowledge & Application	Emergency Response – Electrical Shock and Burns: Recognition and first response to electrical shock. Basic burn first aid in lab settings.	Hands-on emergency simulation	Reports, exams
11th	1 theory + 2 practical	Knowledge & Application	Chemical Safety Basics: Common chemicals in PT labs (disinfectants, gels). Material Safety Data Sheets (MSDS). Chemical spill response.	Hands-on lab practice	Reports, exams
12th	1 theory + 2 practical	Knowledge & Application	Ergonomic Safety for Practitioners: Safe patient handling and transfer techniques. Preventing musculoskeletal injuries among PT practitioners.	Hands-on lab practice	Reports, exams
13th	1 theory + 2 practical	Knowledge & Application	Incident Reporting and Documentation: Structure of an incident report. Root cause analysis basics. Legal and regulatory reporting requirements.	Documentation workshop	Reports, exams

14th	1 theory + 2 practical	Knowledge & Application	Regulatory Framework and Institutional Safety Policy: Iraqi Ministry of Health safety regulations. Institutional safety committees and their role.	Whiteboard, PowerPoint slides	Reports, exams
15th	1 theory + 2 practical	Knowledge & Application	Comprehensive Safety Drill and Final Review: Full simulation of a lab emergency scenario. Final exam preparation.	Comprehensive simulation, review	Comprehensive exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Furr, A. K. (2018). CRC Handbook of Laboratory Safety (6th ed.). CRC Press.
Main References (Sources)	Occupational Safety and Health Administration (OSHA). (2023). Laboratory Safety Guidance. U.S. Department of Labor.
Recommended Books and References	World Health Organization. (2020). Laboratory Biosafety Manual (4th ed.). WHO Press. Journal of Chemical Health and Safety (Elsevier).
Electronic References and Websites	OSHA Laboratory Safety: osha.gov/laboratories; World Health Organization – Biosafety: who.int/health-topics/laboratory-biosafety

Level Three

MTCD303 — Medical Research Methods

1. Course Name	Medical Research Methods
2. Course Code	MTCD303
3. Semester / Year	First Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	30 theory hours / 2 units
7. Course Coordinator Name	Lect. Sulaiman Musara Karim

8. Course Objectives

Providing students with the basic knowledge of the principles and foundations of scientific research in the medical field; developing skills for designing and conducting medical research related to physical therapy; enabling students to use appropriate statistical methods to analyze medical data; strengthening the ability to critically evaluate published research and benefit from it in developing professional practice; instilling academic values and the ethics of scientific research in students.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Identifying the concept of scientific research and its importance in developing medical knowledge and physical therapy practice. A2. Understanding the types of medical research (quantitative, qualitative, and mixed-methods research) and the characteristics of each type. A3. Grasping the steps of scientific research methodology: defining the problem, formulating hypotheses, designing the research, collecting data, analyzing results, and drawing recommendations. A4. Recognizing the principles of measurement tools (validity – reliability) in medical research and how to select the appropriate tool.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

B. Skill Objectives Specific to the Course

B1. Equipping students with skills for formulating the medical research problem scientifically and precisely, and defining the research objectives and hypotheses.

B2. Developing skills for designing research studies (descriptive, experimental, comparative, cross-sectional...) suited to the nature of health and medical problems. B3. Mastering the steps of data collection through scientific research tools (questionnaires, interviews, medical records, laboratory/clinical measurements). B4. Applying statistical-analysis skills using computer programs (such as SPSS or Excel) to accurately interpret research results.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

C. Affective and Value-Based Objectives

C1. Developing positive attitudes toward scientific research as a fundamental tool for developing medical practice and physical therapy. C2. Strengthening values of precision, objectivity, and scientific integrity in collecting data and documenting results, and commitment to intellectual property rights. C3. Instilling a spirit of ethical responsibility in dealing with research participants, including respecting their privacy and the confidentiality of their information. C4. Encouraging students toward creativity and critical thinking in selecting research topics that serve the community and the health sector.	
Teaching Methods	(In-person lectures)
Assessment Methods	Daily tests, semester tests, final examinations.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Critical-thinking and problem-solving skills through analyzing scientific data and drawing conclusions. D2. Developing skills for using technology by working with statistical software and reference-management programs (such as EndNote or Mendeley). D3. Acquiring time-management and work-organization skills to complete research within specified timeframes. D4. Strengthening oral and written communication skills through preparing research reports and presenting results at seminars or conferences.

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	2 theory	Knowledge	Introduction to Research Methodology: Meaning of research, objectives of research, motivation in research, types	Whiteboard, PowerPoint slides	Reports, oral and written

			of research & research approaches, research methods vs. methodology, criteria for good research.		theoretical exams
2nd	2 theory	Knowledge	Research Problem: Statement of research problem, statement of purpose and objectives of the research problem, necessity of defining the problem.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
3rd	2 theory	Knowledge	Research Design: Meaning of research design, need for research design, features of good design, different research designs, basic principles of research design.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
4th	2 theory	Knowledge	Sampling Design: Criteria for selecting sampling procedure, implications for sample design, steps in sampling design, characteristics of good sample design, different types of sample design.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
5th	2 theory	Knowledge	Sampling Design (continued from previous week).	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
6th	2 theory	Knowledge	Measurement and Scaling Techniques: Measurement in research, measurement scales, sources of error in measurement, technique of developing measurement tools, meaning of scaling and its classification, important scaling techniques.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
7th	2 theory	Knowledge	Measurement and Scaling Techniques (continued from previous week).	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
8th	2 theory	Knowledge	Methods of Data Collection: Collection of primary data, collection of data through questionnaires & schedules, difference between questionnaires & schedules.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
9th	2 theory	Knowledge	Sampling Fundamentals: Need for sampling & some fundamental definitions, important sampling distributions.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
10th	2 theory	Knowledge	Processing and Analysis of Data: Processing operations, problems in processing, types of analysis, statistics in research, measures of central tendency, dispersion, asymmetry, relationship.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
11th	2 theory	Knowledge	Processing and Analysis of Data (continued from previous week).	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
12th	2 theory	Knowledge	Testing of Hypothesis: What is a hypothesis? Basic concepts concerning testing of hypothesis, procedure of hypothesis testing, measuring the power of a hypothesis test, tests of hypothesis, limitations of the tests of hypothesis.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

13th	2 theory	Knowledge	Testing of Hypothesis (continued from previous week).	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
14th	2 theory	Knowledge	Computer Technology: Introduction to computers, computer application in research, computers & the researcher.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
15th	2 theory	Knowledge	General Revision	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Sunder Rao, P. S. S. An Introduction to Biostatistics.
Main References (Sources)	Mahajan, B. K. (1997). Methods in Bio-Statistics (6th ed.). Visweswara Rao, K. Biostatistics: A Manual of Statistics Methods.
Recommended Books and References	The Lancet – Journal of Clinical and Medical Research.
Electronic References and Websites	National Institutes of Health: nih.gov

Level Three

PTT301 — Physiotherapy for Medical (Internal) Diseases

1. Course Name	Physiotherapy for Medical (Internal) Diseases
2. Course Code	PTT301
3. Semester / Year	First Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	30 theory hours + 45 practical hours / 3 units
7. Course Coordinator Name	Dr. Ali Hussein

8. Course Objectives

Understanding the types of diseases affecting certain body systems; identifying the medical terminology related to internal (medical) diseases; identifying the causes, signs, and symptoms of internal diseases; understanding the field of medical rehabilitation and its role in treating internal diseases.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Identifying the concept of common internal (medical) diseases (diseases of the respiratory, cardiovascular, digestive, urinary, and endocrine systems). A2. Understanding the physiological and pathological foundations (pathophysiology) associated with these diseases and their effects on different body systems. A3. Distinguishing the basic clinical signs and symptoms that accompany internal diseases and their effect on the patient's physical and functional activity. A4. Knowing the general principles of medical diagnosis and laboratory and radiological examinations related to internal diseases.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

B. Skill Objectives Specific to the Course

B1. Conducting an accurate clinical examination of patients with internal diseases (measuring vital signs, assessing respiration, examining functional capacity). B2. Applying physical therapy techniques specific to the respiratory system, such as: deep-breathing exercises,

postural drainage of secretions, and manual techniques that help improve ventilation. B3. Implementing safe and effective treatment programs for patients suffering from cardiovascular diseases (such as progressive endurance exercises and prevention of complications). B4. Mastering the use of assistive devices (such as the Incentive Spirometer, lung capacity measurement devices, and effort-monitoring devices).	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

C. Affective and Value-Based Objectives

C1. Developing a spirit of professional and ethical responsibility in dealing with patients with internal diseases of various ages and conditions. C2. Strengthening human empathy with the patient and the ability to understand their physical and psychological suffering. C3. Instilling values of respect for the patient and their rights, and maintaining the privacy and confidentiality of their medical data. C4. Encouraging work in a spirit of an integrated healthcare team (physicians, nursing, physical therapy specialists) that serves the patient's interest.	
Teaching Methods	(In-person lectures)
Assessment Methods	Daily tests, semester tests, final examinations.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Developing critical-thinking and analysis skills to understand complex internal cases and link them to the appropriate physical therapy plan. D2. Strengthening problem-solving skills through dealing with complications or unexpected responses to treatment. D3. Acquiring effective communication skills with patients and their families to clarify treatment instructions and health guidance. D4. Developing teamwork skills within the medical team (physicians, nursing, nutrition specialists) to achieve integrated care.

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	2 theory + 3 practical	Knowledge & Application	History Taking	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

2nd	2 theory + 3 practical	Knowledge & Application	Hypertension: Definition, etiology, pathophysiology, signs & symptoms, prevention, effects of exercise on blood pressure.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
3rd	2 theory + 3 practical	Knowledge & Application	Diabetes Mellitus: Definition, etiology, classification, pathophysiology, signs & symptoms, prevention, complications, role of physiotherapy.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
4th	2 theory + 3 practical	Knowledge & Application	Human Immunodeficiency Syndrome (HIV): Definition, epidemiology, etiology, pathophysiology, staging, signs & symptoms, prevention, complications, role of physiotherapy.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
5th	2 theory + 3 practical	Knowledge & Application	Hepatitis: Definition, etiology, classification, pathophysiology, signs & symptoms, prevention, complications.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
6th	2 theory + 3 practical	Knowledge & Application	Anemia: Definition, epidemiology, etiology, signs & symptoms, prevention, complications.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
7th	2 theory + 3 practical	Knowledge & Application	Leukemia: Definition, etiology, classification, staging, signs & symptoms, complications, role of physiotherapy.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
8th	2 theory + 3 practical	Knowledge & Application	Multiple Myeloma and Lymphoma: Definition, etiology, pathophysiology, signs & symptoms, complications, role of physiotherapy.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
9th	2 theory + 3 practical	Knowledge & Application	Deep Venous Thrombosis: Definition, etiology, pathophysiology, signs & symptoms, prevention, physiotherapy.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
10th	2 theory + 3 practical	Knowledge & Application	Renal Failure: Definition, etiology, classification, signs & symptoms, complications, physiotherapy.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
11th	2 theory + 3 practical	Knowledge & Application	Gastroesophageal Reflux, Irritable Bowel Syndrome: Definition, etiology, signs & symptoms, prevention, physiotherapy.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
12th	2 theory + 3 practical	Knowledge & Application	Liver Cirrhosis: Definition, etiology, pathophysiology, signs & symptoms, complications, physiotherapy.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
13th	2 theory + 3 practical	Knowledge & Application	Hypo- and Hyperthyroidism: Definition, etiology, signs & symptoms, complications, physiotherapy.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
14th	2 theory + 3 practical	Knowledge & Application	Adrenal Gland Disorders: Definition, etiology, signs & symptoms, complications, physiotherapy.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
15th	2 theory + 3 practical	Knowledge & Application	Revision	Whiteboard, PowerPoint slides	Reports, oral and written

					theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Hillegass, E. (2016). Essentials of Cardiopulmonary Physical Therapy (4th ed.). Elsevier.
Main References (Sources)	Frownfelter, D., & Dean, E. (2012). Cardiovascular and Pulmonary Physical Therapy: Evidence and Practice (5th ed.). Elsevier.
Recommended Books and References	Journal of Cardiopulmonary Rehabilitation and Prevention
Electronic References and Websites	Physiopedia – Cardiopulmonary Physiotherapy

Level Three

PTT302 — Physiotherapy for Advanced Surgery

1. Course Name	Physiotherapy for Advanced Surgery
2. Course Code	PTT302
3. Semester / Year	Second Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	30 theory hours + 45 practical hours / 3 units
7. Course Coordinator Name	Dr. Salam Muhanad Salman

8. Course Objectives

1. Enabling the student to apply appropriate rehabilitation programs for different surgical cases. 2. Introducing the student to the role of physical therapy in care before and after advanced surgical operations. 3. Equipping the student with skills for assessing patients after surgical operations. 4. Preparing the student to deal with common complications after surgical operations (such as blood clots, shortness of breath, adhesions).

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Identifying the general principles of advanced surgery and its types (cardiothoracic surgery, brain and nerve surgery, complex orthopedic surgery, tumor surgery...). A2. Understanding the physiological and pathological foundations of the changes that occur after major surgical operations and their effect on body systems. A3. Knowing the potential complications after surgery (such as: blood clots, infection, hypomobility syndrome) and the role of physical therapy in preventing them. A4. Explaining the different stages of rehabilitation after advanced surgical operations and the physical therapy steps at each stage.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

B. Skill Objectives Specific to the Course

B1. Conducting an accurate clinical assessment of post-advanced-surgery patients (measuring vital signs,

assessing respiration, muscle strength, and functional movement). B2. Applying physical therapy protocols specific to different surgical cases such as: cardiothoracic surgeries, complex orthopedic surgeries, and nervous system surgeries. B3. Mastering respiratory therapy techniques (deep-breathing exercises, postural drainage, effective coughing techniques) for patients after chest or abdominal surgeries. B4. Implementing early in-hospital rehabilitation programs to reduce complications and improve recovery speed.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

C. Affective and Value-Based Objectives

C1. Strengthening a sense of professional and ethical responsibility when dealing with patients after complex surgical operations. C2. Developing a spirit of human empathy with the patient and understanding their physical and psychological suffering after surgery. C3. Commitment to values of respecting the patient and their rights, and maintaining the privacy and confidentiality of their medical data. C4. Encouraging cooperation and teamwork with physicians and nursing staff to ensure integrated care is provided.	
Teaching Methods	(In-person lectures)
Assessment Methods	Daily tests, semester tests, final examinations.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Developing critical-thinking and scientific-analysis skills when dealing with complex surgical cases. D2. Strengthening problem-solving skills by developing individual treatment plans suited to each patient. D3. Acquiring effective communication skills with patients, their families, and members of the multidisciplinary medical team. D4. Developing teamwork and collaboration skills within the healthcare environment to ensure integration of therapeutic services.

10. Course Structure					
Week	**Hours**	**Learning Outcomes**	**Unit / Topic Name**	**Teaching Method**	**Assessment Method**

1st	2 theory + 3 practical	Knowledge & Application	Introduction: Role of physiotherapy in advanced surgery, principles of pre- and post-operative rehabilitation	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
2nd	2 theory + 3 practical	Knowledge & Application	Thoracic Surgeries: Definitions, indications, surgical incisions, complications.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
3rd	2 theory + 3 practical	Knowledge & Application	Physiotherapy Management after Thoracic Surgeries	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
4th	2 theory + 3 practical	Knowledge & Application	Cardiac Surgeries: Open and closed heart surgery – indications, complications, physiotherapy management	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
5th	2 theory + 3 practical	Knowledge & Application	Pulmonary and Chest Injuries: Etiology, clinical presentation, complications	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
6th	2 theory + 3 practical	Knowledge & Application	Traumatic Brain Injury (TBI): Causes, mechanism, Glasgow Coma Scale, surgical interventions.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
7th	2 theory + 3 practical	Knowledge & Application	Physiotherapy in Moderate to Severe TBI	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
8th	2 theory + 3 practical	Knowledge & Application	Brain Tumor Surgery: Indications, complications, physiotherapy management.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
9th	2 theory + 3 practical	Knowledge & Application	Spinal Surgeries (Cervical & Lumbar): Indications, complications, physiotherapy rehabilitation.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
10th	2 theory + 3 practical	Knowledge & Application	Pelvic Surgeries: Indications, complications, physiotherapy management	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
11th	2 theory + 3 practical	Knowledge & Application	Peripheral Vascular Surgeries: Varicose veins, bypass grafting – physiotherapy role.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
12th	2 theory + 3 practical	Knowledge & Application	Abdominal and Bariatric Surgeries: Post-operative complications and rehabilitation	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
13th	2 theory + 3 practical	Knowledge & Application	Gynecological Surgeries: Cesarean section, hysterectomy – physiotherapy management.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
14th	2 theory + 3 practical	Knowledge & Application	Organ Transplantation: Liver, kidney, lung – physiotherapy role in early recovery.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

15th	2 theory + 3 practical	Knowledge & Application	Burns and Reconstructive Surgeries, ICU Physiotherapy, Course Revision	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Payne, W. K., & Jan, Y. K. (2018). Surgical Conditions and Physical Therapy Management. F.A. Davis.
Main References (Sources)	Hertling, D., & Kessler, R. M. (2018). Management of Common Musculoskeletal Disorders: Physical Therapy Principles and Methods (5th ed.). Wolters Kluwer.
Recommended Books and References	Journal of Rehabilitation Medicine
Electronic References and Websites	American Physical Therapy Association (APTA)

Level Three

PTT303 — Basic Physiotherapy for Neurological Diseases

1. Course Name	Basic Physiotherapy for Neurological Diseases
2. Course Code	PTT303
3. Semester / Year	First Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	30 theory hours + 45 practical hours / 3 units
7. Course Coordinator Name	Dr. Ibrahim Kadhim Nouri

8. Course Objectives

Identifying the diseases affecting the central and peripheral nervous systems. 1. Identifying the basic sciences to provide knowledge of aspects related to neuroscience and neurological diseases. 2. Identifying various acquired neurological diseases and problems in adults. 3. Identifying medical topics and terminology, pathophysiological causes, clinical examination and assessment, and comparing contemporary and traditional interventions and the effect of developed technology in this field. 4. Determining the appropriate rehabilitation programs for each medical case using available therapeutic means and exercises.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Introducing the basic principles of Neuroanatomy & Neurophysiology relevant to physical therapy. A2. Understanding the pathophysiology of common neurological diseases such as: stroke, spinal cord injuries, multiple sclerosis, cerebral palsy, parkinsonism, and others. A3. Distinguishing different neurological signs and symptoms such as: muscle weakness, balance disorders, loss of sensation, and spasms. A4. Becoming familiar with the basics of Neurological Assessment used in physical therapy: assessing muscle strength, muscle tone, reflexes, balance, and gait.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

B. Skill Objectives Specific to the Course

B1. Conducting an accurate neurological clinical assessment (such as examining muscle strength, muscle

tone, neurological reflexes, balance, and motor coordination). B2. Applying Functional Assessment tests to determine the patient's ability to perform daily life activities. B3. Designing and implementing initial physical therapy programs for neurological cases consistent with the individual rehabilitation goals of each patient. B4. Using basic therapeutic means (such as therapeutic exercises, Proprioceptive Neuromuscular Facilitation (PNF) techniques, gait training, balance exercises).	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

C. Affective and Value-Based Objectives

C1. Strengthening a sense of human and professional responsibility in dealing with neurological patients with respect and dignity. C2. Developing a spirit of empathy and patience with patients and their families, for the physical and psychological disabilities they suffer from. C3. Commitment to professional ethics in physical therapy practice (confidentiality, integrity, respect). C4. Instilling the value of teamwork and collaboration with the multidisciplinary medical team to achieve rehabilitation goals.	
Teaching Methods	(In-person lectures)
Assessment Methods	Daily tests, semester tests, final examinations.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Developing critical-thinking and problem-solving skills when dealing with complex neurological cases. D2. Acquiring effective communication skills with patients, their families, and colleagues within the medical team. D3. Working in a spirit of teamwork and collaborating with other medical specialties to achieve an integrated treatment plan. D4. Managing time effectively during therapeutic sessions and clinical training.

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	2 theory + 3 practical	Knowledge & Application	Medical terminology regarding the neurological system; anatomy and physiology of the nervous system (brain, CNS support structures, neurons, PNS, spinal level reflexes).	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

2nd	2 theory + 3 practical	Knowledge & Application	Neurological assessment (higher mental function, assessment of the brain, evaluation of cranial nerves, and evaluation of the autonomic nervous system)	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
3rd	2 theory + 3 practical	Knowledge & Application	Investigations (principles, methods, views, normal/abnormal values/features of the following investigative procedures in brief: skull X-ray, CT, MRI, evoked potentials, lumbar puncture, EMG, NCV).	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
4th	2 theory + 3 practical	Knowledge & Application	Cerebrovascular Diseases: Defining stroke, TIA, stroke in evolution, lacunar infarct; classification of stroke – ischemic, hemorrhagic, venous infarcts	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
5th	2 theory + 3 practical	Knowledge & Application	Cerebrovascular Diseases: Early warning signs & prevention; risk factors, causes of ischemic stroke, causes of hemorrhagic stroke, classification of hemorrhagic stroke, classification of stroke, stroke syndrome, investigations.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
6th	2 theory + 3 practical	Knowledge & Application	Cerebrovascular Diseases: Complications, medical and surgical management, physical therapy management	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
7th	2 theory + 3 practical	Knowledge & Application	Facial Palsy, Bell's Palsy: Causes, clinical features, physical therapy management.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
8th	2 theory + 3 practical	Knowledge & Application	Multiple Sclerosis: Pathophysiology, causes, clinical presentation, physical therapy management	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
9th	2 theory + 3 practical	Knowledge & Application	Parkinson's Disease: Pathophysiology, causes, clinical presentation, physical therapy management.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
10th	2 theory + 3 practical	Knowledge & Application	Trigeminal Neuralgia: Pathophysiology, causes, clinical presentation, physical therapy management	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
11th	2 theory + 3 practical	Knowledge & Application	Higher Cortical, Neuropsychological, and Neurobehavioral Disorders: Causes of blackouts, neural basis of consciousness, causes and investigations of coma; perceptual disorders and speech disorders.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
12th	2 theory + 3 practical	Knowledge & Application	Movement Disorders: Definition, etiology, risk factors, pathophysiology, classification, clinical signs & symptoms, investigations, medical management	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
13th	2 theory + 3 practical	Knowledge & Application	Movement Disorders (cont.): Surgical management and complications of disorders such as myoclonus and Wilson's disease	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

14th	2 theory + 3 practical	Knowledge & Application	Cerebellar and Coordination Disorders: Etiology, pathophysiology, classification, clinical signs and symptoms, investigations, differential diagnosis, management of congenital ataxia, Friedreich's ataxia, tabes dorsalis, and syphilis.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
15th	2 theory + 3 practical	Knowledge & Application	General Revision	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Umphred, D. A., Lazaro, R. T., Roller, M., & Burton, G. U. (2013). Umphred's Neurological Rehabilitation (6th ed.). Elsevier.
Main References (Sources)	Lundy-Ekman, L. (2020). Neuroscience: Fundamentals for Rehabilitation (6th ed.). Elsevier.
Recommended Books and References	Journal of Neurologic Physical Therapy (JNPT)
Electronic References and Websites	Physiopedia – Neurological Physiotherapy

Level Three

PTT304 — Physiotherapy for Spinal Cord Injuries

1. Course Name	Physiotherapy for Spinal Cord Injuries
2. Course Code	PTT304
3. Semester / Year	Second Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	30 theory hours + 45 practical hours / 3 units
7. Course Coordinator Name	Dr. Ibrahim Kadhim Nouri

8. Course Objectives

1. Identifying the anatomy, physiology, and function of the spinal cord and the most important injuries it sustains. 2. Identifying spinal cord injuries and the diseases that affect it. 3. Identifying the most important pathological causes of diseases and disorders affecting the spinal cord. 4. Identifying medical treatments and surgical interventions for treating these injuries. 5. Identifying clinical symptoms, differential diagnosis, and assessment of spinal cord disorders. 6. Identifying the role of physical therapy and the medical rehabilitation needed to treat various injuries using appropriate therapeutic means, methods, and exercises in rehabilitating these injuries.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Introducing the neuroanatomy and neurophysiology of the spinal cord and its relationship to motor and sensory functions. A2. Understanding the pathophysiology of spinal cord injuries by type (complete/incomplete) and their effect on neurological functions. A3. Distinguishing the different clinical signs and symptoms associated with the levels of spinal cord injury, such as: paralysis, loss of sensation, spasms, and bladder and bowel control disorders. A4. Becoming familiar with the basics of neurological assessment in cases of spinal cord injury, including the ASIA classification, assessment of muscle strength, muscle tone, balance, and reflexes.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

B. Skill Objectives Specific to the Course

B1. Developing the skill of taking a history related to spinal cord injuries accurately and comprehensively. B2. Equipping the student with the ability to conduct clinical examination and neurological assessment of injured patients, including assessment of muscle strength, balance, reflexes, and patient posture. B3. Training the student to use and classify spinal cord injuries according to the ASIA Scale and interpret its results practically. B4. Enabling the student to design individual physical therapy plans suited to the level of injury and therapeutic goals for each patient.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

C. Affective and Value-Based Objectives

C1. Developing a sense of professional and ethical responsibility in dealing with spinal cord injury patients. C2. Strengthening empathy with the patient and appreciating their psychological and physical suffering, achieving a supportive humane therapeutic relationship. C3. Instilling values of patience and commitment in following up long-term treatment for these chronic cases. C4. Strengthening respect for the patient's dignity and their rights to choose and participate in therapeutic decisions.	
Teaching Methods	(In-person lectures)
Assessment Methods	Daily tests, semester tests, final examinations.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Developing effective communication skills with patients, their families, and the multidisciplinary medical team. D2. Strengthening the ability for critical thinking and logical analysis when developing treatment plans and making clinical decisions. D3. Equipping the student with time-management skills and organizing therapeutic sessions to achieve efficiency and quality in service delivery. D4. Developing the ability to work within a team and collaborate with various medical specialties to achieve shared goals.

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	2 theory + 3 practical	Knowledge & Application	Introduction to the rehabilitation of SCI: effective system of SCI care, types of paralysis in SCI, etiology,	Whiteboard, PowerPoint slides	Reports, oral and written

			complications, causes of death, aim of rehabilitation, rehabilitation teamwork, team members, functions of team members		theoretical exams
2nd	2 theory + 3 practical	Knowledge & Application	Anatomy and Physiology of the Spinal Column and Spinal Cord: spinal curvature functions, spinal ligament & disc functions, spinal column functions, spinal cord functions, spinal circulation & meninges functions, spinal cord vascular anatomy, relation of vertebrae to the spinal cord.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
3rd	2 theory + 3 practical	Knowledge & Application	ASIA Classification and Definitions: ASIA classification system, basic definitions of completeness with sacral sparing, sensory exam, motor exam, neurological level of injury, ASIA impairment scale	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
4th	2 theory + 3 practical	Knowledge & Application	ASIA Motor Index Score and Guide: manual muscle testing, purposes of muscle test, factors affecting strength, preparation and information, assessment, contraindications and precautions, grading system in SCI, 10 key muscles	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
5th	2 theory + 3 practical	Knowledge & Application	ASIA Sensory Index Score and Guide: types of sensory receptors, sensory nerve pathways, dermatome – sensory level, dermatome distribution	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
6th	2 theory + 3 practical	Knowledge & Application	SCI Management at the Scene of the Accident: general rules; the unconscious patient – position & alignment correction, respiratory care, basic examination; the conscious patient; evacuation	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
7th	2 theory + 3 practical	Knowledge & Application	Initial Management of Acute Traumatic SCI: spinal shock, acute manifestations of spinal injury, primary medical procedures of acute or unstable SCI, unstable SCI stage duration determination, medical procedures of unstable SCI, stable (acute) injuries	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
8th	2 theory + 3 practical	Knowledge & Application	Respiratory Rehabilitation Functions for SCI: chest physical therapy definition, process of respiration, respiratory muscle function, changes in the respiratory system in SCI, respiratory complications, respiratory tests	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
9th	2 theory + 3 practical	Knowledge & Application	Respiratory Rehabilitation Plans and Goals: exercises of respiratory muscles according to the level of injury, bronchial hygiene, treatment of spasticity effects on respiratory functions, use of resistance in breathing exercises, respiratory exercises, postural drainage: procedures and complications.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

10th	2 theory + 3 practical	Knowledge & Application	Rehabilitation Functions for Pressure Ulcers: definition, stages and classification, pressure ulcer causes and locations, skin care, early treatment, and prevention	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
11th	2 theory + 3 practical	Knowledge & Application	Rehabilitation of Spasticity: definition, types of SCI according to reflexes, patterns of spasticity, stretch reflex, classification of spasticity, spasticity physiology, clinical features, increasing factors, advantages and disadvantages, treatment goals, treatment plan.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
12th	2 theory + 3 practical	Knowledge & Application	Deep Vein Thrombosis: anatomy, physiology, definition, physiological factors affecting clot formation, etiology, locations, signs and symptoms, diagnosis, complications, prevention, treatment	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
13th	2 theory + 3 practical	Knowledge & Application	Contractures: definition, causes, common contractures and shortening, prevention and treatment.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
14th	2 theory + 3 practical	Knowledge & Application	Heterotopic Ossification: definition, classification, causes, diagnosis, clinical presentation, prevention and treatment, surgical intervention and physiotherapy.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
15th	2 theory + 3 practical	Knowledge & Application	Revision	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Kirshblum, S. C., & Lin, V. W. (2019). Spinal Cord Medicine (3rd ed.). Demos Medical.
Main References (Sources)	Handbook of Physical Medicine and Rehabilitation (1982). Neurological Rehabilitation, 6th ed. (Umphred's Neurological Rehabilitation).
Recommended Books and References	Journal of Spinal Cord Medicine
Electronic References and Websites	American Spinal Injury Association (ASIA)

Level Three

PTT305 — Physical Therapy for Diseases of the Skeletal System

1. Course Name	Physical Therapy for Diseases of the Skeletal System
2. Course Code	PTT305
3. Semester / Year	First Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	30 theory hours + 45 practical hours / 3 units
7. Course Coordinator Name	Dr. Salam Muhanad Salman

8. Course Objectives

1. Identifying the types of diseases affecting the musculoskeletal system. 2. Identifying the medical terminology related to the musculoskeletal system. 3. Identifying the causes of diseases affecting the musculoskeletal system, their signs and symptoms. 4. Identifying the field of medical rehabilitation and its role in treating peripheral musculoskeletal diseases. 5. Identifying the therapeutic methods and rehabilitation program for musculoskeletal diseases.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Introducing the anatomical and physiological structure of the skeletal system (bones, joints, muscles, and ligaments) and its relationship to movement and function. A2. Understanding the pathophysiology of common diseases and injuries of the skeletal system such as: fractures, dislocations, arthritis, osteoporosis, spinal deformities, and sports injuries. A3. Distinguishing the clinical signs and symptoms of musculoskeletal diseases (such as pain, swelling, limited movement, muscle weakness, and postural deformities). A4. Becoming familiar with the principles of assessment and clinical examination for skeletal system patients: assessing range of motion (ROM), muscle strength, joint stability, gait, and motor functions.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

B. Skill Objectives Specific to the Course

B1. Applying clinical examination and functional assessment skills for patients with diseases and injuries of the skeletal system. B2. Designing therapeutic and rehabilitative programs appropriate to each medical case based on assessment results. B3. Implementing therapeutic interventions such as therapeutic exercises, manual therapy, and physical agents efficiently and safely. B4. Using measurement tools (such as Goniometer, Manual Muscle Testing) to estimate therapeutic progress.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

C. Affective and Value-Based Objectives

C1. Developing a sense of professional and ethical responsibility toward patient care. C2. Strengthening patience and empathy with patients and understanding their physical and psychological suffering. C3. Commitment to the values and ethics of the profession in dealing with patients and colleagues. C4. Strengthening the spirit of teamwork and collaboration among members of the healthcare team.	
Teaching Methods	(In-person lectures)
Assessment Methods	Daily tests, semester tests, final examinations.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Developing critical-thinking and problem-solving skills in clinical situations. D2. Developing effective communication skills with patients, their families, and members of the medical team. D3. Acquiring the ability for continuous self-learning and following up on scientific developments in physical therapy. D4. Using modern technologies and information-technology tools in research and therapeutic assessment.

10. Course Structure					
Week	**Hours**	**Learning Outcomes**	**Unit / Topic Name**	**Teaching Method**	**Assessment Method**
1st	2 theory + 3 practical	Knowledge & Application	Cervical Pain: Definition, acute and chronic, etiology, clinical presentation, physiotherapy.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

2nd	2 theory + 3 practical	Knowledge & Application	Adhesive Capsulitis: Definition, etiology, pathology, clinical presentation, physiotherapy	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
3rd	2 theory + 3 practical	Knowledge & Application	Rotator Cuff Tendonitis and Tear: Definition, etiology, pathology, clinical presentation, physiotherapy	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
4th	2 theory + 3 practical	Knowledge & Application	Lateral and Medial Epicondylitis: Definition, etiology, pathology, clinical presentation, physiotherapy.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
5th	2 theory + 3 practical	Knowledge & Application	Carpal Tunnel Syndrome: Definition, etiology, pathology, clinical presentation, physiotherapy	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
6th	2 theory + 3 practical	Knowledge & Application	De Quervain's Tenosynovitis, Trigger Finger, Dupuytren's Contracture: Definition, etiology, clinical presentation, physiotherapy.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
7th	2 theory + 3 practical	Knowledge & Application	Low Back Pain: Definition, etiology, pathology, clinical presentation, physiotherapy.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
8th	2 theory + 3 practical	Knowledge & Application	Scoliosis: Definition, etiology, pathology, clinical presentation, physiotherapy	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
9th	2 theory + 3 practical	Knowledge & Application	Coccydynia: Definition, etiology, pathology, clinical presentation, physiotherapy.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
10th	2 theory + 3 practical	Knowledge & Application	Diffuse Idiopathic Skeletal Hyperostosis: Definition, etiology, pathology, clinical presentation, physiotherapy.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
11th	2 theory + 3 practical	Knowledge & Application	Plantar Fasciitis: Definition, etiology, pathology, clinical presentation, physiotherapy.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
12th	2 theory + 3 practical	Knowledge & Application	Patellofemoral Pain Syndrome: Definition, etiology, pathology, clinical presentation, physiotherapy.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
13th	2 theory + 3 practical	Knowledge & Application	Meralgia Paresthetica: Definition, etiology, pathology, clinical presentation, physiotherapy	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
14th	2 theory + 3 practical	Knowledge & Application	Bursitis and Anserine Bursitis: Definition, etiology, pathology, clinical presentation, physiotherapy.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
15th	2 theory + 3 practical	Knowledge & Application	Metatarsalgia: Definition, etiology, pathology, clinical presentation, physiotherapy.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Magee, D. J. (2014). Orthopedic Physical Assessment (6th ed.). Elsevier.
Main References (Sources)	Hertling, D., & Kessler, R. M. (2018). Management of Common Musculoskeletal Disorders: Physical Therapy Principles and Methods (5th ed.). Wolters Kluwer.
Recommended Books and References	Journal of Orthopaedic & Sports Physical Therapy (JOSPT)
Electronic References and Websites	Physiopedia – Musculoskeletal Physiotherapy

Level Three

PTT306 — Physiotherapy for Sport Injuries

1. Course Name	Physiotherapy for Sport Injuries
2. Course Code	PTT306
3. Semester / Year	Second Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	30 theory hours + 45 practical hours / 3 units
7. Course Coordinator Name	Dr. Fawzi Hamadi Mahdi

8. Course Objectives

1. Identifying sports injuries. 2. Identifying the basic sciences to provide knowledge of aspects related to sports injuries. 3. Identifying various sports injuries affecting joints, muscles, and ligaments. 4. Identifying medical topics and terminology and the physiological variables of sports injuries, clinical examination and assessment, and comparing contemporary and traditional interventions and the effect of advanced technology in this field. 5. Determining the appropriate rehabilitation programs for each medical case using available therapeutic means and exercises.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Introducing the concept of sports injuries and their types (acute and chronic) and their contributing factors. A2. Understanding the functional anatomy of the musculoskeletal system and its relationship to types of sports injuries. A3. Grasping the pathophysiology of common sports injuries such as: muscle tears, sprains, fractures, ligament and cartilage injuries, and Overuse Syndromes. A4. Distinguishing the clinical signs and symptoms associated with different sports injuries such as: pain, swelling, limited movement, loss of strength, and instability.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

B. Skill Objectives Specific to the Course

B1. Applying clinical examination and functional assessment skills for those affected by sports injuries.

B2. Designing integrated therapeutic and rehabilitative programs that take into account the type and severity of the injury and the athlete's level. B3. Implementing therapeutic interventions such as therapeutic exercises, manual therapy, and the use of physical agents efficiently and safely. B4. Applying first-aid skills directed at field sports injuries.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

C. Affective and Value-Based Objectives

C1. Strengthening a sense of professional responsibility toward injured athletes. C2. Developing a spirit of empathy and respect for patients while taking into account the psychological state of the athlete after injury. C3. Commitment to the ethical values of the profession in dealing with players, coaches, and medical staff. C4. Strengthening a spirit of teamwork within the medical and sports team.	
Teaching Methods	(In-person lectures)
Assessment Methods	Daily tests, semester tests, final examinations.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Developing critical-thinking and problem-solving skills in sports clinical cases.
D2. Developing effective communication skills with athletes, coaches, and the medical staff.
D3. The ability for continuous self-learning and following up on scientific developments in sports medicine and physical therapy.
D4. Using modern technology in sports assessment and rehabilitation (such as motion-analysis devices and digital training programs).

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	2 theory + 3 practical	Knowledge & Application	Introduction to Sport Injury Management, Physiological Effects of Exercise	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
2nd	2 theory + 3 practical	Knowledge & Application	Shoulder Injuries in Sport: Shoulder Separation, Shoulder Dislocation	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

3rd	2 theory + 3 practical	Knowledge & Application	Shoulder Injuries in Sport: Rotator Cuff Tendonitis and Supraspinatus Tendonitis	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
4th	2 theory + 3 practical	Knowledge & Application	The Elbow and Forearm: Tennis and Golfer's Elbow (medial and lateral epicondylitis), Olecranon Bursitis (Draftsman's Elbow)	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
5th	2 theory + 3 practical	Knowledge & Application	The Elbow and Forearm: Little League Elbow, Anterior Interosseous Nerve Syndrome (Kiloh-Nevin Syndrome), Triceps Tendinitis	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
6th	2 theory + 3 practical	Knowledge & Application	Hand and Wrist Injuries: De Quervain's Tenosynovitis, Wrist Sprain	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
7th	2 theory + 3 practical	Knowledge & Application	Hand and Wrist Injuries: Trigger Finger (Flexor Tenosynovitis), Jersey Finger	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
8th	2 theory + 3 practical	Knowledge & Application	Lower Back Injuries: Lumbar Sprain and Strain	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
9th	2 theory + 3 practical	Knowledge & Application	Hip Injuries: Acetabular Labral Tears, Groin Strain or Hip Adductor Strain	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
10th	2 theory + 3 practical	Knowledge & Application	Hip Injuries: Piriformis Syndrome, Hamstring Strain, Greater Trochanter Bursitis	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
11th	2 theory + 3 practical	Knowledge & Application	Knee Injuries: Anterior and Posterior Cruciate Ligament Injuries	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
12th	2 theory + 3 practical	Knowledge & Application	Knee Injuries: Medial and Lateral Collateral Ligament Injuries	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
13th	2 theory + 3 practical	Knowledge & Application	Knee Injuries: Medial and Lateral Meniscus, Osgood-Schlatter Disease	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
14th	2 theory + 3 practical	Knowledge & Application	Ankle and Foot Injuries: Ankle Sprains, Achilles Tendon Rupture, Plantar Fasciitis	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
15th	2 theory + 3 practical	Knowledge & Application	Ankle and Foot Injuries: Tibialis Anterior Tendinopathy, Tibialis Posterior Tendon Injuries, Sprain of the First Metatarsophalangeal Joint	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Houglum, P. A., & Bertoti, D. B. (2018). Therapeutic Exercise for Musculoskeletal Injuries (4th ed.). Human Kinetics.
Main References (Sources)	Starkey, C. (2013). Evaluation of Orthopedic and Athletic Injuries (3rd ed.). F.A. Davis.
Recommended Books and References	Journal of Orthopaedic & Sports Physical Therapy (JOSPT)
Electronic References and Websites	Physiopedia – Sports Injuries & Rehabilitation

Level Three

PTT307 — Prostheses and Orthotics

1. Course Name	Prostheses and Orthotics
2. Course Code	PTT307
3. Semester / Year	First Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	15 theory hours + 45 practical hours / 2 units
7. Course Coordinator Name	Dr. Fawzi Hamadi Mahdi

8. Course Objectives

1. Equipping Physical Therapy Techniques students with the basic knowledge and skills in the field of prostheses and orthotics, enabling them to understand the medical and engineering principles associated with them, and to deal with patients who need these devices, with the aim of improving motor functions and quality of life, and strengthening their role as part of an integrated rehabilitation team. 2. Introducing the student to the principles of designing and manufacturing prostheses and orthotics. 3. Explaining the types of prostheses (lower – upper) and their therapeutic uses. 4. Clarifying the role of orthotics and assistive devices in rehabilitation processes. 5. Distinguishing the different clinical cases that benefit from prosthetic limbs or orthoses.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Introducing the basic concepts of prostheses and orthotics and their role in physical therapy plans for motor rehabilitation. A2. Understanding the anatomy and biomechanics of the upper and lower limbs and their relationship to therapeutic exercises and functional rehabilitation. A3. Grasping the basic principles of designing prostheses and orthotics consistent with physical therapeutic goals. A4. Identifying the different types of prostheses (upper – lower) and orthoses (such as splints and braces) and their effect on facilitating physical therapy programs.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

B. Skill Objectives Specific to the Course

B1. Applying an integrated clinical and motor assessment that links the prosthetic limb to the needs of the physical therapy program. B2. Participating in determining the most suitable prosthetic limb or orthosis that achieves the best response to physical therapy. B3. Training patients in the functional use of prosthetic limbs within physical therapy sessions (such as gait training, balance, and motor performance). B4. Designing integrated therapeutic programs that include therapeutic exercises and support with assistive devices.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

C. Affective and Value-Based Objectives

C1. Strengthening professional responsibility toward patients with special needs within the framework of physical therapy programs. C2. Showing empathy and psychological support to amputee patients and prosthetic-limb users during their rehabilitation journey. C3. Commitment to the ethics of the profession and the values of the physical therapy department in dealing with patients and colleagues on the medical team. C4. Developing a spirit of teamwork between the physical therapist, the prosthetics manufacturing team, physicians, and nurses.	
Teaching Methods	(In-person lectures)
Assessment Methods	Daily tests, semester tests, final examinations.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Developing critical-thinking skills in selecting the rehabilitation solutions most compatible with physical therapy programs. D2. Strengthening effective communication skills with patients and their families to clarify the role of physical therapy in their prosthetic-limb training. D3. The ability for continuous learning and following up on scientific developments in the field of prosthetics and applying them in physical training. D4. Using modern tools in motor assessment and analysis to serve the goals of the physical therapy department.

10. Course Structure					
Week	**Hours**	**Learning Outcomes**	**Unit / Topic Name**	**Teaching Method**	**Assessment Method**

1st	1 theory + 3 practical	Knowledge & Application	Introduction, Rehabilitation, the Handicap: concept, taking care, psychological effect of the handicap	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
2nd	1 theory + 3 practical	Knowledge & Application	Psychological Effect of the Handicap, the Amputee: causes of amputation, level of amputation in the lower limbs.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
3rd	1 theory + 3 practical	Knowledge & Application	Training Program for Amputee: nursing after operation, nursing before prosthesis	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
4th	1 theory + 3 practical	Knowledge & Application	Importance of Stump, Muscular Exercise, Nursing During Prosthesis: temporary prosthesis & management	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
5th	1 theory + 3 practical	Knowledge & Application	Normal Gait & its Analysis, Gait Deviation & its Treatment	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
6th	1 theory + 3 practical	Knowledge & Application	Early Management (Clinic Team Approach to Rehabilitation, Amputation Surgery: Osteomyoplastic Reconstructive Technique, Postoperative Management)	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
7th	1 theory + 3 practical	Knowledge & Application	Early Management (Pain Management, Skin Disorders and Their Management, Psychological Consequences of Amputation)	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
8th	1 theory + 3 practical	Knowledge & Application	Rehabilitation of Adults with Lower Limb Amputation (Partial Foot and Syme's Amputations and Prosthetic Designs)	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
9th	1 theory + 3 practical	Knowledge & Application	Rehabilitation of Adults with Lower Limb Amputation (Transtibial Prosthetic Designs)	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
10th	1 theory + 3 practical	Knowledge & Application	Rehabilitation of Adults with Lower Limb Amputation (Transfemoral Prosthetic Designs)	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
11th	1 theory + 3 practical	Knowledge & Application	Rehabilitation of Adults with Lower Limb Amputation (Hip Disarticulations and Trans-pelvic Prosthetic Designs, Basic Lower-Limb Prosthetic Training)	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
12th	1 theory + 3 practical	Knowledge & Application	Rehabilitation of Adults with Upper Limb Amputation (Body-Powered Upper-Limb Prosthetic Designs)	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
13th	1 theory + 3 practical	Knowledge & Application	Rehabilitation of Adults with Upper Limb Amputation (Upper-Limb Externally Powered Prosthetic Designs)	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
14th	1 theory + 3 practical	Knowledge & Application	Rehabilitation of Adults with Upper Limb Amputation (Training Patients with Upper-Limb Amputations)	Whiteboard, PowerPoint slides	Reports, oral and written

					theoretical exams
15th	1 theory + 3 practical	Knowledge & Application	Revision	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Kahle, J. T., Highsmith, M. J., & Hubbard, S. L. (2018). Prosthetics and Orthotics (2nd ed.). Wolters Kluwer.
Main References (Sources)	Moore, K. L., Dalley, A. F., & Agur, A. M. R. (2018). Clinically Oriented Anatomy (8th ed.). Wolters Kluwer.
Recommended Books and References	—
Electronic References and Websites	—

Level Three

PTT308 — Amputee Rehabilitation

1. Course Name	Amputee Rehabilitation
2. Course Code	PTT308
3. Semester / Year	Second Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	15 theory hours + 45 practical hours / 2 units
7. Course Coordinator Name	Dr. Fawzi Hamadi Mahdi

8. Course Objectives

1. Equipping the student with the theoretical knowledge and practical skills necessary to assess and diagnose amputation cases at various levels, and to design and implement physical therapy and functional rehabilitation programs that contribute to improving the motor, psychological, and social capacity of amputees, and enabling them to integrate into daily life and society. 2. Identifying the types of amputation, their medical causes, and their immediate and long-term complications. 3. Understanding the physiological and mechanical changes that occur in the locomotor system after amputation. 4. Conducting clinical and functional assessment of the patient after amputation, including assessing muscle strength, range of motion, and functional capacities. 5. Applying the principles of physical therapy at the different stages of rehabilitation (post-operative stage, pre-fitting stage, post-prosthesis-fitting stage). 6. Teaching the patient methods of caring for the residual limb to prevent complications such as skin ulcers and muscle contractures. 7. Training the patient to use the prosthetic limb effectively, achieving motor and functional integration in daily activities. 8. Developing individual treatment programs that take into account the psychological and social aspects of amputees to increase adaptation and self-confidence.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Identifying the anatomical and physiological foundations of the upper and lower limbs and their relationship to the amputation process. A2. Understanding the medical and surgical causes leading to amputation (such as: injuries, tumors, diabetes complications, and vascular diseases). A3. Becoming familiar with the different types of amputation (partial, total, above-knee, below-knee, above-elbow, below-elbow) and their complications. A4. Distinguishing the post-amputation stages: wound care, prevention of deformities, pain management (especially phantom pain).	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.

Assessment Methods	Daily tests, semester tests, final examinations.

B. Skill Objectives Specific to the Course

B1. Mastering methods of clinically and functionally assessing limb amputees (range of motion, muscle strength, balance, gait). B2. Applying therapeutic exercise programs specific to limb amputees (strengthening, stretching, balance, breathing, and general fitness exercises). B3. Training the patient in correct positioning and prevention of deformities after amputation (Contracture Prevention). B4. Using practical strategies to reduce pain and manage phantom pain (Phantom Pain Management).	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

C. Affective and Value-Based Objectives

C1. Strengthening a sense of professional and humane responsibility in dealing with limb amputees. C2. Establishing values of empathy and understanding of the patient's physical, psychological, and social needs. C3. Commitment to the ethics of the physical therapy profession by respecting the patient's privacy and dignity. C4. Developing a positive attitude toward working in a spirit of teamwork with the rest of the medical and rehabilitation team members.	
Teaching Methods	(In-person lectures)
Assessment Methods	Daily tests, semester tests, final examinations.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Developing effective communication skills with patients, their families, and the medical team. D2. Acquiring the ability to work in a spirit of teamwork within a multidisciplinary environment. D3. Developing problem-solving skills in complex clinical situations. D4. Strengthening critical-thinking and scientific-analysis skills for medical cases.

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	1 theory + 3 practical	Knowledge & Application	Introduction to Amputation: definition, history, epidemiology. Classification of amputation: by level (upper, lower) and	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

			by cause (traumatic, pathological, congenital).		
2nd	1 theory + 3 practical	Knowledge & Application	Medical and Surgical Causes of Amputation (diabetes, gangrene, tumors, trauma). Immediate postoperative complications.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
3rd	1 theory + 3 practical	Knowledge & Application	Physiological Changes after Amputation: circulation, muscle imbalance, loss of balance. Biomechanical and functional consequences.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
4th	1 theory + 3 practical	Knowledge & Application	Principles of Postoperative Care: wound care and residual limb management	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
5th	1 theory + 3 practical	Knowledge & Application	Common Complications: phantom pain, contractures, skin breakdown. Prevention and management strategies.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
6th	1 theory + 3 practical	Knowledge & Application	Post-Amputation Assessment: clinical examination; range of motion and muscle strength evaluation; functional assessments.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
7th	1 theory + 3 practical	Knowledge & Application	Early Physiotherapy Interventions: breathing exercises, strengthening, balance training. Psychological and social preparation of the patient	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
8th	1 theory + 3 practical	Knowledge & Application	Pre-Prosthetic Rehabilitation: preparation of the residual limb; bandaging and shaping techniques	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
9th	1 theory + 3 practical	Knowledge & Application	Prosthetics Introduction: types of prostheses (upper and lower limbs). Main components of prosthetic devices	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
10th	1 theory + 3 practical	Knowledge & Application	Training in Prosthetic Use: donning and doffing; balance and posture control	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
11th	1 theory + 3 practical	Knowledge & Application	Gait Training with Lower Limb Prosthesis: progression from parallel bars → walker → crutches → independent walking.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
12th	1 theory + 3 practical	Knowledge & Application	Functional Training with Upper Limb Prosthesis: grasping and releasing objects; activities of daily living (ADLs).	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
13th	1 theory + 3 practical	Knowledge & Application	Designing Individualized Rehabilitation Programs: integration of physical, psychological, and social aspects	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
14th	1 theory + 3 practical	Knowledge & Application	Role of the Multidisciplinary Team: physician, physiotherapist, prosthetist, psychologist, social worker	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

15th	1 theory + 3 practical	Knowledge & Application	Comprehensive Review: case-based clinical applications and practical examination	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Esquenazi, A., & DiGiacomo, R. (2013). Rehabilitation After Limb Amputation. Springer.
Main References (Sources)	Kahle, J. T., Highsmith, M. J., & Hubbard, S. L. (2018). Prosthetics and Orthotics (2nd ed.). Wolters Kluwer.
Recommended Books and References	Prosthetics and Orthotics International (POI Journal)
Electronic References and Websites	International Society for Prosthetics and Orthotics (ISPO)

Level Three

PTT309 — Therapeutic Exercises

1. Course Name	Therapeutic Exercises
2. Course Code	PTT309
3. Semester / Year	First Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	30 theory hours + 45 practical hours / 3 units
7. Course Coordinator Name	Dr. Fawzi Hamadi Mahdi

8. Course Objectives

1. Identifying all traditional and modern physical therapy exercise techniques used in the specialty. 2. Knowing manual manipulation technique for all body joints. 3. Knowing the principles of Maitland and Mulligan in the joint manual manipulation technique. 4. Knowing the stages of injury and the therapeutic exercises for treating soft tissue injuries.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Introducing the basic principles of Therapeutic Exercises and their role in physical therapy plans. A2. Understanding the anatomical & physiological basis associated with the application of therapeutic exercises. A3. Grasping the effects of therapeutic exercises on the musculoskeletal system and the nervous system. A4. Distinguishing between the different types of therapeutic exercises (range of motion (ROM) exercises, corrective exercises, resistance exercises, aerobic exercises, balance exercises).	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

B. Skill Objectives Specific to the Course

B1. The ability to conduct a clinical examination to determine range of motion and muscle strength before prescribing exercise. B2. Applying different therapeutic exercises (ROM, corrective exercises, resistance exercises, aerobic exercises, balance exercises) practically and safely.

B3. The skill of designing an individual exercise program suited to the patient's condition (Exercise Program Design). B4. Mastering progression techniques in exercises according to the patient's response.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

C. Affective and Value-Based Objectives

C1. Strengthening a sense of professional and ethical responsibility when dealing with patients during the application of therapeutic exercises. C2. Developing a spirit of empathy with patients, understanding their suffering, and encouraging them to continue treatment. C3. Instilling values of cooperation and teamwork with members of the medical and rehabilitation team. C4. Establishing the importance of commitment to professional confidentiality and respecting the patient's privacy.	
Teaching Methods	(In-person lectures)
Assessment Methods	Daily tests, semester tests, final examinations.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Developing effective communication skills with patients and colleagues in a multidisciplinary clinical environment. D2. Developing teamwork and coordination skills with the medical team to achieve the best therapeutic outcomes. D3. Strengthening the ability to solve problems and make appropriate decisions when designing or modifying therapeutic exercise programs. D4. Acquiring time-management skills and organizing therapeutic exercise sessions efficiently.

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	2 theory + 3 practical	Knowledge & Application	Joint Mobilization: Definitions of terms — mobilization, manipulation, self-mobilization (auto-mobilization), mobilization with movement, physiological movements, accessory movements, component motions, joint play, manipulation under anaesthesia; basic concepts of joint motion: arthrokinematics	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

2nd	2 theory + 3 practical	Knowledge & Application	Joint Mobilization: Indications, contraindications and precautions; procedures for applying passive joint mobilization technique — examination and evaluation of various joints, quality of pain, capsular restriction, grades or dosages of movement, principles of Maitland, Mulligan, and Mackenzie joint manipulation techniques	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
3rd	2 theory + 3 practical	Knowledge & Application	Joint Mobilization of Peripheral Joints: Principles, manipulation techniques — MWM: definition, principle, indication, contraindication	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
4th	2 theory + 3 practical	Knowledge & Application	Joint Mobilization of the Shoulder Joint Complex: mechanical movement of the joint, accessory joints (AC joint, SC joint, subscapular joint), methods of application to increase all physiological movements of the shoulder joint (flexion, extension, hyperextension, abduction, etc.)	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
5th	2 theory + 3 practical	Knowledge & Application	Joint Mobilization of the Elbow Joint Complex: mechanical movement of the joint, methods of application to increase all physiological movements of the elbow joint (flexion, extension), accessory radioulnar joint for supination and pronation movements.	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
6th	2 theory + 3 practical	Knowledge & Application	Joint Mobilization of the Wrist Joint and Hand Complex: mechanical movement of the joint, methods of application — wrist joint, phalangeal joints	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
7th	2 theory + 3 practical	Knowledge & Application	Joint Mobilization of the Knee Joint Complex: mechanical movement of the joint, methods of application	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
8th	2 theory + 3 practical	Knowledge & Application	Joint Mobilization of the Ankle Joint Complex & Foot: mechanical movement of the joint, methods of application	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
9th	2 theory + 3 practical	Knowledge & Application	Joint Mobilization for the Axial Part: definition, Mulligan principles, manipulation techniques — MWM & NAGs, SNAGs, indications, contraindications	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
10th	2 theory + 3 practical	Knowledge & Application	Joint Mobilization of the Cervical Spine (MWM & NAGs, SNAGs); Joint Mobilization of the Lumbar Spine (MWM & NAGs, SNAGs)	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
11th	2 theory + 3 practical	Knowledge & Application	Positional Release Technique: Introduction and keywords; three related PRT modalities, each with a different fascial connection: strain-counterstrain (SCS), facilitated positional release (FPR), functional positional release (FuPR).	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

12th	2 theory + 3 practical	Knowledge & Application	Mechanisms That May Explain SCS Effects: neurological changes; general SCS guidelines for achieving tender-point ease	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
13th	2 theory + 3 practical	Knowledge & Application	Myofascial Release Technique: definition, properties of soft tissue, mechanical and neurophysiologic properties of connective tissue	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
14th	2 theory + 3 practical	Knowledge & Application	Myofascial Release Technique for Trigger Points; Myofascial Release Technique for the Axial Part	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
15th	2 theory + 3 practical	Knowledge & Application	Revision	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Houglum, P. A., & Bertoti, D. B. (2018). Brunnstrom's Clinical Kinesiology (6th ed.). F.A. Davis.
Main References (Sources)	O'Sullivan, S. B., Schmitz, T. J., & Fulk, G. D. (2019). Physical Rehabilitation (7th ed.). F.A. Davis.
Recommended Books and References	Journal of Orthopaedic & Sports Physical Therapy (JOSPT)
Electronic References and Websites	Physiopedia – Therapeutic Exercise

Level Three

PTT310 — Therapeutic Equipment

1. Course Name	Therapeutic Equipment
2. Course Code	PTT310
3. Semester / Year	Second Semester / 2025-2026
4. Date of Preparation	15 / 9 / 2025
5. Available Attendance Forms	In-person lectures
6. Credit Hours / Units	30 theory hours + 45 practical hours / 3 units
7. Course Coordinator Name	Assist. Prof. Mazin Nadheer Farhan

8. Course Objectives

1. Identifying the devices used in physical therapy in general. 2. Introducing the student to each electrical device used in physical therapy. 3. Introducing the student to the operating principles of each device. 4. Identifying the physiological and therapeutic effects of each device. 5. Identifying the application methods and techniques for each physical therapy device. 6. Identifying the dosage standards, intensity, and treatment-repetition intervals used with physical therapy devices.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Identifying the physical and biological foundations of physical therapy devices, and understanding the operating principles of thermal devices (hot packs, infrared), cold devices (cryotherapy), ultrasound, electrotherapy, and laser. A2. Grasping the physiological effects of therapeutic devices on tissues and vital systems, and distinguishing between their types in terms of therapeutic uses, clinical indications, and contraindications. A3. Understanding safety standards when using devices in clinical practice, and becoming familiar with the principles of calibrating and inspecting them to ensure their safety and efficiency before use. A4. Recognizing the role of therapeutic devices in rehabilitation programs, and understanding the principles of documenting their use within the medical record, while staying informed of recent developments and future trends in this field.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

B. Skill Objectives Specific to the Course

B1. Mastering the operation of therapeutic devices and calibrating their settings (intensity, frequency, time) and determining their application sites to ensure clinical effectiveness and safety. B2. Applying comprehensive practical treatment plans that integrate devices with other therapeutic means (exercises, manual therapy), while monitoring the patient's response and documenting observations. B3. Practicing initial inspection and maintenance procedures for devices, and early recognition of side effects and complications and taking appropriate action. B4. Educating and informing the patient about the mechanism of the treatment session and its instructions, with full commitment to occupational safety rules and protecting the patient and the medical team.	
Teaching Methods	Theoretical lectures, practical lectures, clinical training, group discussions, presentations.
Assessment Methods	Daily tests, semester tests, final examinations.

C. Affective and Value-Based Objectives

C1. Developing a sense of professional responsibility and commitment to professional ethics and the patient's rights and privacy during therapeutic sessions. C2. Instilling values of precision, discipline, and patience when dealing with sensitive devices and chronic cases, while strengthening a spirit of empathy and psychological support for the patient. C3. Strengthening self-confidence in operating devices and making clinical decisions, and establishing the concept of safety and prevention as a fundamental value in the work environment. C4. Developing a spirit of teamwork and cooperation with the medical team, and encouraging students toward self-development and following up on technological developments in the field of therapeutic devices.	
Teaching Methods	(In-person lectures)
Assessment Methods	Daily tests, semester tests, final examinations.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Developing effective communication and teamwork skills with patients and members of the multidisciplinary medical team. D2. Refining critical-thinking and problem-solving skills in selecting the appropriate device according to the case, and managing time and organizing sessions efficiently. D3. Mastering professional documentation skills for recording session details, and developing the ability to adapt to different work environments (hospitals, rehabilitation centers, private clinics).

D4. Strengthening the ability for self-learning and following up on technical developments, and building leadership skills that support professional development and increase employment opportunities in the healthcare market.

10. Course Structure					
Week	**Hours**	**Learning Outcomes**	**Unit / Topic Name**	**Teaching Method**	**Assessment Method**
1st	2 theory + 3 practical	Knowledge & Application	Traction: Definition, the physiological effects of traction	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
2nd	2 theory + 3 practical	Knowledge & Application	Traction: Clinical indications for the use of spinal traction; contraindications and precautions for the use of spinal traction	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
3rd	2 theory + 3 practical	Knowledge & Application	Adverse Effects of Spinal Traction, Application Techniques (Mechanical Lumbar Traction and Cervical Traction)	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
4th	2 theory + 3 practical	Knowledge & Application	Cryotherapy: physiological effects of cold; indications, contraindications, and precautions of cold therapy	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
5th	2 theory + 3 practical	Knowledge & Application	Advanced Cryotherapy Application Techniques: cold packs, ice massage, cold compression, vapocoolant spray, brief icing, cold whirlpool, ice immersion	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
6th	2 theory + 3 practical	Knowledge & Application	Therapeutic Equipment in Physical Therapy: Principles, Clinical Applications, and Maintenance	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
7th	2 theory + 3 practical	Knowledge & Application	Therapeutic Equipment in Physical Therapy: Principles, Clinical Applications, and Maintenance (cont.)	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
8th	2 theory + 3 practical	Knowledge & Application	Therapeutic Equipment in Physical Therapy: Principles, Clinical Applications, and Maintenance (cont.)	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
9th	2 theory + 3 practical	Knowledge & Application	Hydrotherapy: Physical Principles and Properties of Water	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
10th	2 theory + 3 practical	Knowledge & Application	Hydrotherapy: Physiological Effects of Hydrotherapy, Uses of Hydrotherapy, Contraindications and Precautions for Hydrotherapy	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
11th	2 theory + 3 practical	Knowledge & Application	Hydrotherapy: Application of General Hydrotherapy Technique	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
12th	2 theory + 3 practical	Knowledge & Application	Hydrotherapy: Applying the Whirlpool Technique	Whiteboard, PowerPoint slides	Reports, oral and written

					theoretical exams
13th	2 theory + 3 practical	Knowledge & Application	Hydrotherapy: Method of Applying the Hubbard Tank	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
14th	2 theory + 3 practical	Knowledge & Application	Hydrotherapy: Method of Applying Pool Exercise	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams
15th	2 theory + 3 practical	Knowledge & Application	Revision	Whiteboard, PowerPoint slides	Reports, oral and written theoretical exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Bellew, J. W., & Nolan, T. P., Jr. (2022). Michlovitz's Modalities for Therapeutic Intervention (7th ed.). F.A. Davis Company.
Main References (Sources)	Cameron, M. H. (2023). Physical Agents in Rehabilitation: An Evidence-Based Approach to Practice (6th ed.). Elsevier.
Recommended Books and References	Journal of Electromyography and Kinesiology; Journal of Physical Therapy Science; Archives of Physical Medicine and Rehabilitation (Elsevier).
Electronic References and Websites	Physiopedia – Physical Agents & Modalities: physio-pedia.com; National Center for Biotechnology Information (NCBI): ncbi.nlm.nih.gov; AccessPhysiotherapy (McGraw-Hill): accessphysiotherapy.mhmedical.com

Level Four

PTT401 — Physiotherapy for Neurological Diseases

1. Course Name	Physiotherapy for Neurological Diseases
2. Course Code	PTT401
3. Semester / Year	First Semester / 2026-2027
4. Date of Preparation	15 / 6 / 2026
5. Available Attendance Forms	In-person theoretical and practical lectures
6. Credit Hours / Units	2 theory hours + 3 practical hours / 3 units
7. Course Coordinator Name	Assist. Prof. Mazin Nadheer Farhan

8. Course Objectives

This course aims to provide Level 4 students with the theoretical knowledge and basic applied skills in the field of physical therapy for neurological diseases, through studying the pathophysiology of the central and peripheral nervous systems, understanding the foundations of clinical neurological assessment, and applying approved therapeutic protocols for the most prominent neurological conditions such as stroke, spinal cord injuries, and Parkinson's disease, qualifying the student to move on to specialized applications in subsequent courses.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Identifying the anatomy and physiology of the central and peripheral nervous systems and the mechanisms of common neurological injury. A2. Understanding the pathophysiology of major neurological conditions (stroke, spinal cord injuries, Parkinson's disease, multiple sclerosis). A3. Grasping approved clinical neurological assessment tools (Ashworth Scale, Brunnstrom Scale, MMT test, balance and coordination tests). A4. Recognizing the principles of neurological physical therapy and theories of cortical reorganization (neuroplasticity) and their applications in rehabilitation.	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, clinical case studies, group discussions.
Assessment Methods	Daily tests, semester exams, final written and oral exams, weekly reports.

B. Skill Objectives Specific to the Course

B1. Conducting a comprehensive clinical neurological assessment and accurately documenting its results within the medical record.

B2. Applying basic neuromotor therapy techniques (Bobath, PNF, Brunnstrom) on models and training cases. B3. Designing staged treatment programs for neurological conditions according to the degree of disability and recovery stage. B4. Employing assistive therapeutic devices (FES, prosthetic devices) within the treatment plan for the neurological patient.	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, clinical case studies, group discussions.
Assessment Methods	Daily tests, semester exams, final written and oral exams, weekly reports.

C. Affective and Value-Based Objectives

C1. Developing a sense of professional and human responsibility toward neurological patients and their families. C2. Strengthening empathy, patience, and perseverance when dealing with chronic neurological conditions with slow recovery. C3. Instilling values of teamwork and coordination with the multidisciplinary team in neurological rehabilitation. C4. Encouraging the student to keep up with research developments in the field of neurological rehabilitation and its modern techniques.	
Teaching Methods	(In-person lectures), group discussions, clinical case studies.
Assessment Methods	Daily, semester, and final examinations; follow-up reports.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Developing professional communication skills with the neurological patient and their family, explaining the rehabilitation plan in simplified language. D2. Acquiring critical-thinking skills in selecting the appropriate treatment protocol based on scientific evidence. D3. Refining documentation skills for tracking the neurological patient's progress and assessing rehabilitation outcomes using standardized measures. D4. Preparing the student to specialize in the field of neurological rehabilitation and to deal with modern technologies (robotics, virtual reality).

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	2+3	Knowledge & Application	Introduction to Neurological PT: CNS and PNS anatomy review. Pathophysiology of neurological injury.	Whiteboard, PowerPoint slides	Reports, exams

			Neuroplasticity and motor learning principles.		
2nd	2+3	Knowledge & Application	Stroke (CVA) – Part 1: Pathophysiology, types, risk factors. Hemiplegia, spasticity, sensory deficits. Brunnstrom stages of recovery.	Whiteboard, PowerPoint slides	Reports, exams
3rd	2+3	Knowledge & Application	Stroke (CVA) – Part 2: PT assessment (Ashworth, Fugl-Meyer, Berg Balance). Bobath NDT, PNF. Functional electrical stimulation (FES).	Whiteboard, lab practical	Reports, exams
4th	2+3	Knowledge & Application	Spinal Cord Injury (SCI): ASIA classification. Complete vs incomplete. PT assessment and rehabilitation for paraplegia and tetraplegia.	Whiteboard, PowerPoint slides	Reports, exams
5th	2+3	Knowledge & Application	Traumatic Brain Injury (TBI): Rancho Los Amigos levels. Cognitive-motor rehabilitation. Gait re-education strategies.	Whiteboard, case studies	Reports, exams
6th	2+3	Knowledge & Application	Parkinson's Disease: TRAP features. PT assessment (UPDRS). LSVT BIG protocol. Balance and fall prevention programs.	Whiteboard, PowerPoint slides, lab practical	Reports, exams
7th	2+3	Knowledge & Application	Multiple Sclerosis (MS): Types, clinical features. Fatigue management. PT interventions: aquatic therapy, balance training, energy conservation.	Whiteboard, PowerPoint slides	Reports, exams
8th	2+3	Knowledge & Application	Midterm Review: CVA, SCI, TBI, Parkinson's, MS case-based review. Midterm examination.	Comprehensive review	Semester exam
9th	2+3	Knowledge & Application	Peripheral Nerve Injuries: Types (neuropraxia, axonotmesis, neurotmesis). EMG/NCV assessment. Splinting, electrical stimulation, sensory re-education.	Whiteboard, PowerPoint slides	Reports, exams
10th	2+3	Knowledge & Application	Guillain-Barré Syndrome and Motor Neuron Diseases: Clinical phases. PT role in acute and rehabilitation phases. Respiratory PT in MND.	Whiteboard, PowerPoint slides	Reports, exams
11th	2+3	Knowledge & Application	Cerebellar Disorders and Ataxia: Clinical features. Frenkel's exercises, coordination training, assistive devices.	Whiteboard, lab practical	Reports, exams
12th	2+3	Knowledge & Application	Neurological Gait Disorders: Hemiplegic, parkinsonian, ataxic, steppage gait. Gait analysis. Orthotic devices in neurological rehabilitation.	Whiteboard, practical gait analysis	Reports, exams
13th	2+3	Knowledge & Application	Vestibular Rehabilitation: BPPV. Epley maneuver. Cawthorne-Cooksey exercises. Chronic vestibular hypofunction rehabilitation.	Whiteboard, PowerPoint slides, lab practical	Reports, exams
14th	2+3	Knowledge & Application	Technology in Neurorehabilitation: Robotic-assisted therapy, virtual reality, FES, TMS. Evidence-based practice in neurological PT.	Whiteboard, PowerPoint slides	Reports, exams
15th	2+3	Knowledge & Application	Comprehensive Review and Case Presentations: Student case	Student presentations, review	Comprehensive exams

			presentations. Integrated review. Final exam preparation.		

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	O'Sullivan, S. B., Schmitz, T. J., & Fulk, G. D. (2024). Physical Rehabilitation (8th ed.). F.A. Davis Company.
Main References (Sources)	Umphred, D. A., & Lazaro, R. T. (2020). Umphred's Neurological Rehabilitation (7th ed.). Elsevier Mosby.
Recommended Books and References	Shumway-Cook, A., & Woollacott, M. H. (2023). Motor Control (6th ed.). Lippincott Williams & Wilkins. Journal of Neurologic Physical Therapy (JNPT).
Electronic References and Websites	Neuropt – Neurology Section APTA: neuropt.org; Physiopedia – Neurological Conditions: physio-pedia.com

Level Four

PTT402 — Advance Physiotherapy for Neurological Diseases

1. Course Name	Advance Physiotherapy for Neurological Diseases
2. Course Code	PTT402
3. Semester / Year	Second Semester / 2026-2027
4. Date of Preparation	15 / 6 / 2026
5. Available Attendance Forms	In-person theoretical and practical lectures
6. Credit Hours / Units	2 theory hours + 3 practical hours / 3 units
7. Course Coordinator Name	Assist. Prof. Mazin Nadheer Farhan

8. Course Objectives

This course aims to broaden and deepen the student's knowledge in the field of specialized neurological rehabilitation, building on what was acquired in PTT401, by delving into advanced therapeutic protocols for complex neurological conditions (cerebral palsy, moderate brain injuries, rare movement disorders), and using modern techniques in neurological rehabilitation (robotics, virtual reality, magnetic stimulation), and designing comprehensive rehabilitation programs that take into account physical, cognitive, and functional dimensions.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Distinguishing between types of cerebral palsy (CP) clinically and by classification, and understanding the principles of functional motor rehabilitation according to the GMFCS system. A2. Understanding the pathophysiology of specialized movement disorders (dystonia, tremor, ataxia) and their treatment protocols. A3. Grasping the principles of employing modern technologies in neurological rehabilitation (Lokomat, VR, tDCS, TMS) and the supporting scientific evidence. A4. Recognizing the dimensions of cognitive-motor rehabilitation in dementia and moderate brain injuries and its approved protocols.	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, clinical case studies, group discussions.
Assessment Methods	Daily tests, semester exams, final written and oral exams, weekly reports.

B. Skill Objectives Specific to the Course

B1. Applying specialized physical therapy protocols for cerebral palsy (advanced NDT, Conductive Education, functional strength training). B2. Designing integrated rehabilitation programs for complex neurological conditions that include functional, cognitive, and social goals. B3. Employing functional performance assessment results (FIM, WHODAS, Goal Attainment Scaling) in adjusting plans and measuring their outcomes. B4. Applying the principles of task-oriented training in advanced paralysis cases.	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, clinical case studies, group discussions.
Assessment Methods	Daily tests, semester exams, final written and oral exams, weekly reports.

C. Affective and Value-Based Objectives

C1. Strengthening awareness of the humane and psychosocial dimensions of chronic neurological disability cases. C2. Instilling values of respect and dignity in dealing with people with severe motor disabilities. C3. Developing readiness for continuous learning in the rapidly evolving, advanced field of neurological rehabilitation. C4. Encouraging the student to advocate for the rights of people with disabilities and strengthen their social inclusion.	
Teaching Methods	(In-person lectures), group discussions, clinical case studies.
Assessment Methods	Daily, semester, and final examinations; follow-up reports.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Developing skills for leading multidisciplinary team meetings and developing comprehensive rehabilitation plans for complex cases. D2. Acquiring skills for assessing the quality of life of the neurological patient and employing this in determining rehabilitation priorities. D3. Refining skills for designing home and community rehabilitation environments suited to people with advanced motor disabilities. D4. Preparing the student to specialize in advanced neurological rehabilitation fields (spinal cord care, cerebral palsy, post-brain-surgery rehabilitation).

10. Course Structure					
Week	**Hours**	**Learning Outcomes**	**Unit / Topic Name**	**Teaching Method**	**Assessment Method**
1st	2+3	Knowledge & Application	Review and Advanced Neuroplasticity: Recap of PTT401 key concepts. Advanced neuroplasticity theories. Activity-dependent plasticity. Advanced motor learning principles.	Whiteboard, PowerPoint slides	Reports, exams
2nd	2+3	Knowledge & Application	Cerebral Palsy (CP) – Classification and Assessment: CP types (spastic, dyskinetic, ataxic). GMFCS, MACS, CFCS. CP-specific assessment (GMFM-88/66).	Whiteboard, lab practical	Reports, exams
3rd	2+3	Knowledge & Application	Cerebral Palsy – Advanced Intervention: NDT advanced techniques. Constraint-Induced Movement Therapy (CIMT). Functional strength training. Orthotic management.	Whiteboard, lab practical	Reports, exams
4th	2+3	Knowledge & Application	Movement Disorders – Dystonia and Tremor: Pathophysiology of dystonia, essential tremor, Huntington's. PT assessment and specialized exercise interventions.	Whiteboard, PowerPoint slides	Reports, exams
5th	2+3	Knowledge & Application	Advanced Stroke Rehabilitation: CIMT. Mirror therapy. Mental practice and motor imagery. High-intensity gait training post-stroke.	Whiteboard, lab practical	Reports, exams
6th	2+3	Knowledge & Application	Robotic-Assisted Neurorehabilitation: Lokomat, Armeo, Ekso Bionics. Evidence for robotic therapy in stroke and SCI. FES-cycling integration.	Whiteboard, PowerPoint slides	Reports, exams
7th	2+3	Knowledge & Application	Virtual Reality (VR) in Neurorehabilitation: Principles and clinical evidence. VR systems (Nintendo Wii, CAREN, Oculus). Balance and gait VR training.	Whiteboard, PowerPoint slides	Reports, exams
8th	2+3	Knowledge & Application	Midterm Review: Advanced neurological rehabilitation cases. Technology integration review. Midterm examination.	Comprehensive review	Semester exam
9th	2+3	Knowledge & Application	Brain Stimulation Techniques: tDCS, TMS. Evidence in stroke and TBI rehabilitation. Safety guidelines.	Whiteboard, PowerPoint slides	Reports, exams
10th	2+3	Knowledge & Application	Cognitive-Motor Rehabilitation: Dual-task training. Cognitive rehabilitation in TBI and dementia. CIMT and bilateral training integration.	Whiteboard, lab practical	Reports, exams
11th	2+3	Knowledge & Application	Functional Outcomes and Quality of Life Measures: FIM, WHODAS 2.0, Goal Attainment Scaling (GAS), EQ-5D. Shared decision-making.	Whiteboard, PowerPoint slides	Reports, exams
12th	2+3	Knowledge & Application	Community Reintegration and Vocational Rehabilitation: Return to work after neurological injury. Community mobility. Driving rehabilitation.	Whiteboard, PowerPoint slides	Reports, exams

13th	2+3	Knowledge & Application	Advanced SCI Rehabilitation: ASIA impairment classification. FES-assisted ambulation. SCI-specific wheelchair skills and sports.	Whiteboard, lab practical	Reports, exams
14th	2+3	Knowledge & Application	Pediatric Neurodevelopmental Disorders: ASD sensory-motor interventions. ADHD and developmental coordination. School-based PT.	Whiteboard, case studies	Reports, exams
15th	2+3	Knowledge & Application	Comprehensive Case Presentations: Advanced neurological rehabilitation student presentations. Integrated review. Final exam preparation.	Student presentations, review	Comprehensive exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	O'Sullivan, S. B., Schmitz, T. J., & Fulk, G. D. (2024). Physical Rehabilitation (8th ed.). F.A. Davis Company.
Main References (Sources)	Umphred, D. A., & Lazaro, R. T. (2020). Umphred's Neurological Rehabilitation (7th ed.). Elsevier Mosby.
Recommended Books and References	Shumway-Cook, A., & Woollacott, M. H. (2023). Motor Control (6th ed.). Lippincott Williams & Wilkins. Journal of Neurologic Physical Therapy (JNPT).
Electronic References and Websites	Neuropt – Neurology Section APTA: neuropt.org; Physiopedia – Advanced Neurorehabilitation: physio-pedia.com

Level Four

PTT403 — Physiotherapy for Growth and Development of Pediatric

1. Course Name	Physiotherapy for Growth and Development of Pediatric
2. Course Code	PTT403
3. Semester / Year	First Semester / 2026-2027
4. Date of Preparation	15 / 6 / 2026
5. Available Attendance Forms	In-person theoretical and practical lectures
6. Credit Hours / Units	2 theory hours + 3 practical hours / 3 units
7. Course Coordinator Name	Assist. Prof. Mazin Nadheer Farhan

8. Course Objectives

This course aims to provide the student with comprehensive knowledge of the stages of normal growth and motor development of the child from birth to adolescence, understanding gross and fine motor milestones, assessing deviations from normal patterns, and identifying early risk factors, enabling the student to build a solid scientific foundation that prepares them for the Physiotherapy for Pediatric Diseases course in the second semester.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Identifying the stages of normal growth and development of the child and the motor milestones of each stage (newborn, infant, early childhood, preschool, school age). A2. Understanding the principles of neuromotor maturation and theories of motor development (Reflex-Hierarchical Model, Dynamic Systems Theory). A3. Grasping approved pediatric motor assessment tools (GMFM, AIMS, Denver II, Bayley Scales) and interpreting their results. A4. Recognizing risk factors affecting motor development (prematurity, sensory deprivation, congenital disabilities) and indicators for early intervention.	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, clinical case studies, group discussions.
Assessment Methods	Daily tests, semester exams, final written and oral exams, weekly reports.

B. Skill Objectives Specific to the Course

B1. Applying standardized motor assessment tools to children at different age stages and documenting results accurately.

B2. Identifying deviations from normal motor development patterns and comparing them to age-referenced standards. B3. Designing early intervention programs to stimulate motor development and strengthen delayed motor milestones. B4. Guiding children's families and raising their awareness of methods to support development in the home and community environment.	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, clinical case studies, group discussions.
Assessment Methods	Daily tests, semester exams, final written and oral exams, weekly reports.

C. Affective and Value-Based Objectives

C1. Developing human sensitivity in dealing with children and their families with warmth and empathy. C2. Strengthening awareness of the importance of early intervention in improving developmental trajectories and achieving the child's maximum potential. C3. Instilling values of cultural and family respect when assessing the child and developing the intervention plan. C4. Encouraging the student to continuously follow research in the field of child development and early intervention programs.	
Teaching Methods	(In-person lectures), group discussions, clinical case studies.
Assessment Methods	Daily, semester, and final examinations; follow-up reports.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Developing effective communication skills with children and their families and explaining assessment results simply and clearly. D2. Acquiring precise motor-observation skills and documenting the child's development over time with systematic records. D3. Refining critical-thinking skills in distinguishing between normal motor delay and what requires therapeutic intervention. D4. Preparing the student to work in developmental and early-intervention centers and school inclusion programs.

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	2+3	Knowledge & Application	Introduction to Pediatric PT: Role of PT in child development. Developmental theories (Reflex-Hierarchical, Dynamic Systems). Overview of assessment principles.	Whiteboard, PowerPoint slides	Reports, exams

2nd	2+3	Knowledge & Application	Motor Development – Neonate and Infant (0–6 months): Primitive reflexes. Postural reactions. Milestones: head control, rolling.	Whiteboard, lab practical	Reports, exams
3rd	2+3	Knowledge & Application	Motor Development – Infant (6–12 months): Sitting, crawling, pulling to stand. Righting and equilibrium reactions. Prehension development.	Whiteboard, practical	Reports, exams
4th	2+3	Knowledge & Application	Motor Development – Toddler and Preschool (1–5 years): Walking, running, jumping, climbing. Fine motor and handedness.	Whiteboard, educational videos	Reports, exams
5th	2+3	Knowledge & Application	Motor Development – School Age and Adolescence (6–18 years): Motor skill refinement. Postural development and screening.	Whiteboard, PowerPoint slides	Reports, exams
6th	2+3	Knowledge & Application	Pediatric Assessment Tools – Part 1: Alberta Infant Motor Scale (AIMS), Gross Motor Function Measure (GMFM). Practical application.	Whiteboard, lab practical	Reports, exams
7th	2+3	Knowledge & Application	Pediatric Assessment Tools – Part 2: Denver Developmental Screening Test II. Bayley Scales. Interpretation and documentation.	Whiteboard, lab practical	Reports, exams
8th	2+3	Knowledge & Application	Midterm Review: Milestones and assessment tools case-based review. Midterm examination.	Review, case discussion	Semester exam
9th	2+3	Knowledge & Application	Risk Factors for Developmental Delay: Prematurity, environmental and genetic factors. Indications for early intervention.	Whiteboard, PowerPoint slides	Reports, exams
10th	2+3	Knowledge & Application	Early Intervention: NDT/Bobath for infants. Sensory integration basics. Family-centered care. Home exercise programs.	Whiteboard, practical	Reports, exams
11th	2+3	Knowledge & Application	Premature Infant Physiotherapy: NICU PT. Positioning and handling. Developmental care. Kangaroo care.	Whiteboard, PowerPoint slides	Reports, exams
12th	2+3	Knowledge & Application	Developmental Coordination Disorder (DCD): DSM-5 criteria. PT interventions. School inclusion support.	Whiteboard, PowerPoint slides	Reports, exams
13th	2+3	Knowledge & Application	Sensory Processing and Integration: Sensory systems and motor development. Sensory processing disorder. Integration therapy.	Whiteboard, practical	Reports, exams
14th	2+3	Knowledge & Application	Parent and Caregiver Education: Communication strategies. Home program design. Cultural considerations. School documentation.	Whiteboard, role-play	Reports, exams
15th	2+3	Knowledge & Application	Comprehensive Review and Case Presentations: Student presentations. Final exam preparation.	Student presentations, review	Comprehensive exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Tecklin, J. S. (2015). Pediatric Physical Therapy (5th ed.). Lippincott Williams & Wilkins.
Main References (Sources)	Campbell, S. K., Palisano, R. J., & Orlin, M. N. (2012). Physical Therapy for Children (4th ed.). Elsevier Saunders.
Recommended Books and References	Shepherd, R. B. (2014). Physiotherapy in Paediatrics (3rd ed.). Butterworth-Heinemann. Pediatric Physical Therapy Journal.
Electronic References and Websites	Physiopedia – Paediatric PT: physio-pedia.com; CDC Developmental Milestones: cdc.gov/ncbddd/actearly

Level Four

PTT404 — Physiotherapy for Pediatric Diseases

1. Course Name	Physiotherapy for Pediatric Diseases
2. Course Code	PTT404
3. Semester / Year	Second Semester / 2026-2027
4. Date of Preparation	15 / 6 / 2026
5. Available Attendance Forms	In-person theoretical and practical lectures
6. Credit Hours / Units	2 theory hours + 3 practical hours / 3 units
7. Course Coordinator Name	Assist. Prof. Mazin Nadheer Farhan

8. Course Objectives

This course aims to apply the basic knowledge acquired in PTT403 to common pathological conditions in children, through studying the pathophysiology of pediatric motor, neurological, respiratory, and orthopedic diseases, applying appropriate physical therapy protocols, and designing integrated rehabilitation plans that take into account the child's developmental age and family situation.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Identifying common neuromotor diseases in children (cerebral palsy, SMA, poliomyelitis) and their pathophysiology. A2. Understanding congenital and acquired musculoskeletal diseases (DDH, clubfoot, scoliosis, hereditary muscular diseases) and the principles of their treatment. A3. Grasping physical therapy protocols for respiratory diseases in children (cystic fibrosis, asthma, pneumonia) and secretion-clearance techniques. A4. Recognizing the specificity of physical therapy for adolescence (adolescent scoliosis, chronic pain syndrome, sports injuries).	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, clinical case studies, group discussions.
Assessment Methods	Daily tests, semester exams, final written and oral exams, weekly reports.

B. Skill Objectives Specific to the Course

B1. Applying physical therapy protocols for cerebral palsy of its various types according to GMFCS, adapting to the developmental age.

B2. Conducting assessment and a treatment plan for congenital musculoskeletal deformities (DDH, clubfoot) and following up on functional progress. B3. Applying respiratory physical therapy techniques tailored for children (modified postural drainage, AFE, modified ACBT). B4. Designing a therapeutic environment and exercise program suited to the child psychologically and developmentally, with active family involvement.	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, clinical case studies, group discussions.
Assessment Methods	Daily tests, semester exams, final written and oral exams, weekly reports.

C. Affective and Value-Based Objectives

C1. Developing emotional competence in dealing with sick children and their families under conditions of disability or chronic illness. C2. Strengthening patience and flexibility in dealing with uncooperative children during therapeutic sessions. C3. Instilling awareness of the importance of coordinating with teachers and social workers to achieve comprehensive inclusion of the child. C4. Encouraging the student to keep up with scientific updates in pediatric rehabilitative medicine.	
Teaching Methods	(In-person lectures), group discussions, clinical case studies.
Assessment Methods	Daily, semester, and final examinations; follow-up reports.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Developing communication skills with the child using play-based methods and positive motivation, and quickly building therapeutic trust. D2. Acquiring skills for guiding the family and training them to apply the treatment plan at home and measure progress. D3. Refining writing skills for pediatric physical therapy reports directed at schools and legal and insurance bodies. D4. Preparing the student to work in centers for children with special needs and children's hospitals.

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	2+3	Knowledge & Application	Cerebral Palsy – Advanced PT Protocols: Review of CP classification. GMFCS-based treatment planning. Evidence-based interventions: CIMT, goal-directed training, hip surveillance.	Whiteboard, lab practical	Reports, exams

2nd	2+3	Knowledge & Application	Spinal Muscular Atrophy (SMA): Classification (Type I–IV). Pathophysiology. PT goals: respiratory support, positioning, mobility aids. Gene therapy implications.	Whiteboard, PowerPoint slides	Reports, exams
3rd	2+3	Knowledge & Application	Duchenne Muscular Dystrophy (DMD): Pathophysiology and stages. Gower's sign. PT management: stretching, respiratory PT, wheelchair mobility, spinal management.	Whiteboard, PowerPoint slides	Reports, exams
4th	2+3	Knowledge & Application	Developmental Hip Dysplasia (DDH) and Legg-Calvé-Perthes Disease: Pavlik harness, post-surgical PT. Perthes stages and activity modification.	Whiteboard, lab practical	Reports, exams
5th	2+3	Knowledge & Application	Congenital Talipes Equinovarus (CTEV): Ponseti method. Serial casting. Post-casting exercise and orthotic management.	Whiteboard, lab practical	Reports, exams
6th	2+3	Knowledge & Application	Scoliosis in Children and Adolescents: Cobb angle measurement. PT management (SEAS, Schroth method). Bracing and post-surgical PT.	Whiteboard, measurement practical	Reports, exams
7th	2+3	Knowledge & Application	Pediatric Respiratory Conditions – Cystic Fibrosis: Pathophysiology. Airway clearance: ACBT, AFE, PEP mask. Exercise in CF.	Whiteboard, respiratory practical	Reports, exams
8th	2+3	Knowledge & Application	Midterm Review: Neurological, orthopedic, and respiratory pediatric conditions. Midterm examination.	Comprehensive review	Semester exam
9th	2+3	Knowledge & Application	Pediatric Burns and Trauma Rehabilitation: Phases of healing. Positioning, splinting, scar management, exercise progression.	Whiteboard, PowerPoint slides	Reports, exams
10th	2+3	Knowledge & Application	Juvenile Idiopathic Arthritis (JIA): Classification and clinical features. PT goals: joint protection, exercise. Hydrotherapy. School integration.	Whiteboard, PowerPoint slides	Reports, exams
11th	2+3	Knowledge & Application	Down Syndrome: Motor characteristics. Atlantoaxial instability precautions. PT interventions for hypotonia and functional mobility.	Whiteboard, practical	Reports, exams
12th	2+3	Knowledge & Application	Autism Spectrum Disorder (ASD) – Motor Perspective: Sensory-motor characteristics. Proprioceptive and vestibular interventions. PT role in ASD multidisciplinary team.	Whiteboard, PowerPoint slides	Reports, exams
13th	2+3	Knowledge & Application	Adolescent Sports Injuries: Osgood-Schlatter, Sever's disease. Apophysitis management. Return-to-sport protocols for adolescents.	Whiteboard, practical	Reports, exams
14th	2+3	Knowledge & Application	Family-Centered Care and School-Based PT: Collaborative goal setting. IEP participation. Report writing for educational settings.	Whiteboard, role-play	Reports, exams

15th	2+3	Knowledge & Application	Comprehensive Review and Case Presentations: Pediatric PT student cases. Integrated review. Final exam preparation.	Student presentations, review	Comprehensive exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Tecklin, J. S. (2015). Pediatric Physical Therapy (5th ed.). Lippincott Williams & Wilkins.
Main References (Sources)	Campbell, S. K., Palisano, R. J., & Orlin, M. N. (2012). Physical Therapy for Children (4th ed.). Elsevier Saunders.
Recommended Books and References	Shepherd, R. B. (2014). Physiotherapy in Paediatrics (3rd ed.). Butterworth-Heinemann. Pediatric Physical Therapy Journal.
Electronic References and Websites	APTA – Academy of Pediatric Physical Therapy: pediatricapta.org; CDC Developmental Disabilities: cdc.gov/ncbddd

Level Four

PTT405 — Radiology and Diagnostic Imaging for Physiotherapy

1. Course Name	Radiology and Diagnostic Imaging for Physiotherapy
2. Course Code	PTT405
3. Semester / Year	First Semester / 2026-2027
4. Date of Preparation	15 / 6 / 2026
5. Available Attendance Forms	In-person theoretical lectures
6. Credit Hours / Units	2 theory hours / 2 units
7. Course Coordinator Name	Assist. Prof. Mazin Nadheer Farhan

8. Course Objectives

This course aims to provide the student with basic knowledge of radiology and diagnostic imaging and their applications in physical therapy, through understanding the principles of X-ray, MRI, CT, and ultrasound, and training the student to read and interpret radiological reports for musculoskeletal and neurological conditions, thereby strengthening their competence in making clinical decisions based on imaging evidence.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Identifying the physical principles of X-Ray and Computed Tomography (CT) and distinguishing normal images of the body's bones and tissues. A2. Understanding the principles of Magnetic Resonance Imaging (MRI), indications for its use, and distinguishing tissue signals (T1, T2). A3. Grasping the principles of ultrasound imaging and its applications in assessing muscles, tendons, and joints. A4. Recognizing common radiological terminology in physical therapy reports and linking it to clinical data.	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, clinical case studies, group discussions.
Assessment Methods	Daily tests, semester exams, final written and oral exams, weekly reports.

B. Skill Objectives Specific to the Course

B1. Reading X-ray images of the skeletal system and distinguishing types of fractures and structural deviations.
B2. Interpreting MRI report terminology for the spine and extremities and linking it to clinical symptoms.

B3. Using imaging results to adjust the treatment plan and identify contraindications for therapeutic techniques. B4. Communicating professionally with the radiologist and reading conclusions within the clinical context.	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, clinical case studies, group discussions.
Assessment Methods	Daily tests, semester exams, final written and oral exams, weekly reports.

C. Affective and Value-Based Objectives

C1. Appreciating the role of medical imaging as a supportive tool, not a substitute for direct clinical assessment. C2. Strengthening commitment to protecting the patient from unjustified radiation exposure. C3. Instilling values of cooperation with the medical team and radiology staff for the patient's benefit. C4. Developing critical thinking in evaluating the quality of radiological studies and their suitability to the case.	
Teaching Methods	(In-person lectures), group discussions, clinical case studies.
Assessment Methods	Daily, semester, and final examinations; follow-up reports.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Developing communication skills with the radiology team to employ imaging results therapeutically.
D2. Acquiring database-research skills for imaging studies relevant to clinical cases.
D3. Refining critical-thinking skills in analyzing medical images and linking them to clinical symptoms.
D4. Preparing the student to deal with modern medical imaging technologies as part of advanced assessment tools.

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	2	Knowledge	Introduction to Diagnostic Imaging in PT: Role of imaging in clinical decision-making. Types of modalities. Imaging request principles and contraindications.	Whiteboard, PowerPoint slides	Reports, exams
2nd	2	Knowledge	X-Ray Principles: Physics of X-rays. Radiographic densities. Positioning and projections.	Whiteboard, sample X-ray images	Reports, exams
3rd	2	Knowledge & Application	X-Ray Interpretation – Skeletal System: Normal bone anatomy. Fracture types and classification. Joint space assessment.	Whiteboard, image-reading exercises	Reports, exams
4th	2	Knowledge & Application	X-Ray of the Spine: Cervical, thoracic, lumbar views. Normal alignment.	Whiteboard, PowerPoint slides	Reports, exams

			Degenerative changes: osteophytes, disc narrowing, spondylolisthesis.		
5th	2	Knowledge & Application	CT Scan: Physics and Hounsfield units. CT of brain, spine, and joints. PT-related indications.	Whiteboard, PowerPoint slides	Reports, exams
6th	2	Knowledge & Application	MRI Principles – Part 1: Physics (T1, T2 weighting). Signal characteristics of tissues. MRI safety and contraindications.	Whiteboard, PowerPoint slides	Reports, exams
7th	2	Knowledge & Application	MRI Principles – Part 2: Spine MRI (disc herniation, stenosis). Joint MRI (meniscus, ligaments, cartilage).	Whiteboard, sample MRI reports	Reports, exams
8th	2	Knowledge & Application	Midterm Review: X-ray and MRI case-based imaging analysis. Midterm examination.	Comprehensive review	Semester exam
9th	2	Knowledge & Application	Musculoskeletal Ultrasound: Principles and technique. Muscles, tendons, bursae imaging. Common findings: rotator cuff, tendinopathy.	Whiteboard, PowerPoint slides	Reports, exams
10th	2	Knowledge & Application	Bone Scan and Nuclear Medicine: Bone scintigraphy principles. Indications: stress fractures, infection, metastases.	Whiteboard, PowerPoint slides	Reports, exams
11th	2	Knowledge & Application	Neurological Imaging in PT: Brain MRI/CT (stroke, TBI, MS plaques). EMG/NCV interpretation basics.	Whiteboard, PowerPoint slides	Reports, exams
12th	2	Knowledge & Application	Pediatric and Sports Imaging: Growth plate injuries (Salter-Harris). Stress fractures. DDH imaging.	Whiteboard, PowerPoint slides	Reports, exams
13th	2	Knowledge & Application	Cardiopulmonary Imaging: Chest X-ray (pneumonia, pleural effusion, cardiomegaly). CTPA in pulmonary embolism.	Whiteboard, sample reports	Reports, exams
14th	2	Knowledge & Application	Clinical Integration: Case-based sessions integrating imaging with PT assessment and treatment planning.	Whiteboard, integrated case studies	Reports, exams
15th	2	Knowledge & Application	Comprehensive Review: Integrated imaging review. Final case analysis. Final exam preparation.	Comprehensive review	Written examinations

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Brant, W. E., & Helms, C. A. (2019). Fundamentals of Diagnostic Radiology (5th ed.). Lippincott Williams & Wilkins.
Main References (Sources)	Greenspan, A., & Beltran, J. (2015). Orthopedic Imaging: A Practical Approach (6th ed.). Lippincott Williams & Wilkins.
Recommended Books and References	Reeder & Felson's Gamuts in Radiology (5th ed.). Springer. Skeletal Radiology Journal (Springer).

Electronic References and Websites	Radiopaedia: radiopaedia.org; Physiopedia – Diagnostic Imaging: physio-pedia.com

Level Four

PTT406 — Physiotherapy for Cardiopulmonary Diseases

1. Course Name	Physiotherapy for Cardiopulmonary Diseases
2. Course Code	PTT406
3. Semester / Year	First Semester / 2026-2027
4. Date of Preparation	15 / 6 / 2026
5. Available Attendance Forms	In-person theoretical and practical lectures
6. Credit Hours / Units	2 theory hours + 3 practical hours / 3 units
7. Course Coordinator Name	Assist. Prof. Mazin Nadheer Farhan

8. Course Objectives

This course aims to qualify the student to deal with cardiac and pulmonary cases in the clinical environment, through studying the pathophysiology of common cardiovascular and respiratory diseases, applying approved cardiac and pulmonary rehabilitation programs, and training the student in chest physical therapy techniques and rehabilitative cardiac exercise, with a focus on clinical safety and monitoring vital signs during exercise.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Identifying the anatomy and physiology of the cardiovascular and respiratory systems, mechanisms of adaptation to exercise, and standards for monitoring cardiopulmonary response. A2. Understanding the pathophysiology of common heart diseases (myocardial infarction, heart failure, angina) and respiratory diseases (COPD, asthma, pneumonia). A3. Grasping clinical cardiopulmonary assessment tools (6-minute walk test, Borg scale, basic ECG reading, spirometry). A4. Recognizing the principles of cardiopulmonary rehabilitation through its three phases, criteria for stopping exercise, and its contraindications.	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, clinical case studies, group discussions.
Assessment Methods	Daily tests, semester exams, final written and oral exams, weekly reports.

B. Skill Objectives Specific to the Course

B1. Applying chest physical therapy techniques (postural drainage, chest percussion, diaphragmatic breathing, ACBT) on models and training cases.

B2. Conducting the 6-Minute Walk Test (6MWT) and interpreting its results within the cardiopulmonary rehabilitation protocol. B3. Designing cardiopulmonary rehabilitation programs according to the patient's stage, risk level, and SpO2 measurements. B4. Monitoring the patient's physiological response during exercise and applying safe session-termination criteria.	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, clinical case studies, group discussions.
Assessment Methods	Daily tests, semester exams, final written and oral exams, weekly reports.

C. Affective and Value-Based Objectives

C1. Developing clinical caution and professional responsibility when dealing with sensitive cardiac and pulmonary patients. C2. Strengthening commitment to safety standards and cardiac emergency protocols (CPR, AED) in the rehabilitation environment. C3. Instilling values of patience and continuous motivation to help the patient overcome the limitations of the disease and achieve independence. C4. Encouraging the student to keep up with updated international cardiac rehabilitation guidelines (AHA/ESC).	
Teaching Methods	(In-person lectures), group discussions, clinical case studies.
Assessment Methods	Daily, semester, and final examinations; follow-up reports.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Developing communication skills with the cardiopulmonary patient and motivating them to adhere to the rehabilitation program. D2. Acquiring coordination skills with the medical team to ensure integration between the medication plan and rehabilitation. D3. Refining vital-sign monitoring skills and making rapid clinical decisions in cases of instability. D4. Preparing the student to work in cardiac rehabilitation units and respiratory care centers.

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	2+3	Knowledge & Application	Introduction to Cardiopulmonary PT: Role of PT. Cardiopulmonary anatomy and physiology review. Exercise physiology and cardiorespiratory response.	Whiteboard, PowerPoint slides	Reports, exams
2nd	2+3	Knowledge & Application	Cardiac Conditions – Part 1: Ischemic heart disease (MI, angina).	Whiteboard, sample ECGs	Reports, exams

			Pathophysiology, clinical features. ECG interpretation basics for PT practice.		
3rd	2+3	Knowledge & Application	Cardiac Conditions – Part 2: Heart failure. CABG and valve replacement. Post-cardiac surgery PT management (Phase I).	Whiteboard, PowerPoint slides	Reports, exams
4th	2+3	Knowledge & Application	Cardiac Rehabilitation – Phases I, II, III: Risk stratification. FITT principle. 6-Minute Walk Test (6MWT) protocol and interpretation.	Whiteboard, lab practical	Reports, exams
5th	2+3	Knowledge & Application	Pulmonary Conditions – Part 1: COPD staging (GOLD). Asthma: triggers, management, exercise-induced asthma.	Whiteboard, PowerPoint slides	Reports, exams
6th	2+3	Knowledge & Application	Pulmonary Conditions – Part 2: Pneumonia, pleural effusion, pulmonary fibrosis, bronchiectasis. Post-COVID pulmonary rehabilitation.	Whiteboard, PowerPoint slides	Reports, exams
7th	2+3	Knowledge & Application	Chest Physiotherapy Techniques: Postural drainage, percussion, vibration. Active Cycle of Breathing (ACBT). Autogenic drainage. Incentive spirometry.	Whiteboard, lab practical	Reports, exams
8th	2+3	Knowledge & Application	Midterm Review: Cardiac and pulmonary conditions. Practical skills review. Midterm examination.	Comprehensive review	Semester exam
9th	2+3	Knowledge & Application	Pulmonary Function Tests (PFTs): Spirometry (FVC, FEV1). Obstructive vs restrictive patterns. SpO2 and arterial blood gas basics.	Whiteboard, spirometry practical	Reports, exams
10th	2+3	Knowledge & Application	Pulmonary Rehabilitation: Program components. Dyspnea management and Borg Scale. Upper and lower limb training.	Whiteboard, rehabilitation programs practical	Reports, exams
11th	2+3	Knowledge & Application	ICU and Acute Care PT: PT in intensive care. Early mobilization protocols. Secretion clearance in mechanically ventilated patients.	Whiteboard, PowerPoint slides	Reports, exams
12th	2+3	Knowledge & Application	Cardiopulmonary PT in Special Populations: Pediatric conditions (cystic fibrosis, congenital heart disease). Elderly. Post-transplant rehabilitation.	Whiteboard, PowerPoint slides	Reports, exams
13th	2+3	Knowledge & Application	Exercise Testing and Prescription: GXT. Target heart rate zones. Safety monitoring during exercise.	Whiteboard, testing practical	Reports, exams
14th	2+3	Knowledge & Application	Secondary Prevention and Lifestyle Modification: Cardiovascular risk factor modification. Smoking cessation. Physical activity guidelines (WHO/AHA).	Whiteboard, PowerPoint slides	Reports, exams
15th	2+3	Knowledge & Application	Comprehensive Review and Case Presentations: Student case presentations. Final exam preparation.	Student presentations, review	Comprehensive exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Frownfelter, D., & Dean, E. (2012). Cardiovascular and Pulmonary Physical Therapy: Evidence to Practice (5th ed.). Elsevier Mosby.
Main References (Sources)	Watchie, J. (2010). Cardiovascular and Pulmonary Physical Therapy: A Clinical Manual (2nd ed.). Saunders Elsevier.
Recommended Books and References	Pryor, J. A., & Prasad, S. A. (2008). Physiotherapy for Respiratory and Cardiac Problems (4th ed.). Churchill Livingstone. Journal of Cardiopulmonary Rehabilitation and Prevention.
Electronic References and Websites	American Heart Association: heart.org; Physiopedia – Cardiopulmonary: physio-pedia.com

Level Four

PTT407 — Workshop Therapeutic Exercises

1. Course Name	Workshop Therapeutic Exercises
2. Course Code	PTT407
3. Semester / Year	First Semester / 2026-2027
4. Date of Preparation	15 / 6 / 2026
5. Available Attendance Forms	Practical lectures (workshop)
6. Credit Hours / Units	4 practical hours / 2 units
7. Course Coordinator Name	Assist. Prof. Mazin Nadheer Farhan

8. Course Objectives

This applied course aims to strengthen and consolidate the student's practical skills in the field of therapeutic exercises through intensive workshops addressing the application of protocols for musculoskeletal, neurological, and cardiopulmonary cases, with a focus on mastering manual techniques, exercise programs, and designing integrated rehabilitation plans, in preparation for clinical training and professional practice.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Reviewing and consolidating theoretical knowledge of the foundations of therapeutic exercises (strengthening, flexibility, endurance, balance, coordination) in an applied context. A2. Understanding the principles of designing exercise programs (FITT principle) according to the clinical condition and recovery stage. A3. Grasping the principles of Progressive Overload and exercise safety for different groups. A4. Recognizing the contraindications specific to each type of exercise according to the medical condition and stage of healing.	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, clinical case studies, group discussions.
Assessment Methods	Daily tests, semester exams, final written and oral exams, weekly reports.

B. Skill Objectives Specific to the Course

B1. Mastering exercise protocols for common conditions (back pain, knee injuries, frozen shoulder, post-surgical rehabilitation).

B2. Applying manual therapy techniques integrated with exercises (trigger point release, joint mobilization, tissue stretching). B3. Using workshop equipment (Theraband, free weights, stability balls, balance tools) efficiently. B4. Designing an integrated therapeutic session (warm-up + main exercises + cool-down) and applying it practically.	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, clinical case studies, group discussions.
Assessment Methods	Daily tests, semester exams, final written and oral exams, weekly reports.

C. Affective and Value-Based Objectives

C1. Strengthening self-confidence in delivering therapeutic exercises professionally. C2. Instilling values of discipline and perseverance in developing manual skills that require continuous repetition. C3. Developing a spirit of constructive feedback among colleagues and supervisors to improve applied performance. C4. Establishing the principle of safety and continuous patient assessment during exercise as a non-negotiable pillar.	
Teaching Methods	(In-person lectures), group discussions, clinical case studies.
Assessment Methods	Daily, semester, and final examinations; follow-up reports.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Developing teaching and clinical guidance skills in explaining exercises to the patient and ensuring correct performance. D2. Acquiring motor-performance assessment skills and correcting technical errors during exercise immediately. D3. Refining teamwork and peer-training skills with a spirit of professionalism. D4. Preparing the student for immediate integration into the clinical training environment with high practical competence.

10. Course Structure

Week	Hours	Learning Outcomes	Unit / Topic Name	Teaching Method	Assessment Method
1st	4 practical	Application	Workshop Orientation and Safety: Lab rules, equipment overview. Warm-up and cool-down protocols. FITT principle review. Partner assessment basics.	Interactive practical workshop	Continuous practical assessment
2nd	4 practical	Application	Stretching and Flexibility: Static, dynamic, PNF stretching. Application	Practical workshop	Practical assessment

			on major muscle groups (hamstrings, hip flexors, shoulder, calf).		
3rd	4 practical	Application	Strengthening – Lower Extremity: Quadriceps, hamstrings, hip muscles. Open and closed kinetic chain. Theraband and free weights.	Practical workshop	Practical assessment
4th	4 practical	Application	Strengthening – Upper Extremity and Core: Shoulder girdle, rotator cuff. Core stabilization (plank, dead bug, bird-dog).	Practical workshop	Practical assessment
5th	4 practical	Application	Balance and Proprioception Training: Static and dynamic balance. Balance board, BOSU, wobble cushion. Ankle and knee rehabilitation.	Practical workshop	Practical assessment
6th	4 practical	Application	Therapeutic Exercise for Low Back Pain: McKenzie basics. Core stabilization. Lumbar stabilization progression. Posture correction.	Practical workshop	Practical assessment
7th	4 practical	Application	Post-Surgical Rehabilitation – Knee: ACL reconstruction protocol (phases 1–4). Total knee replacement exercises. Scar tissue management.	Practical workshop	Practical assessment
8th	4 practical	Application	Post-Surgical Rehabilitation – Shoulder: Rotator cuff repair protocol. Shoulder impingement rehabilitation. Frozen shoulder program.	Practical workshop	Practical assessment
9th	4 practical	Application	Neurological Rehabilitation Exercises: Bobath-based exercises. PNF patterns. Weight-bearing for hemiplegia. Gait re-education drills.	Practical workshop	Practical assessment
10th	4 practical	Application	Aquatic Therapy Simulation: Hydrotherapy principles. Water-based exercises for arthritis, LBP, and neurological conditions.	Practical workshop / simulation	Practical assessment
11th	4 practical	Application	Therapeutic Exercise for Elderly: Fall prevention (Otago Exercise Program). Chair-based exercises. Osteoporosis safety guidelines.	Practical workshop	Practical assessment
12th	4 practical	Application	Sports Rehabilitation: Return-to-sport progression. Plyometric training basics. Agility drills. Functional movement screening (FMS) basics.	Practical workshop	Practical assessment
13th	4 practical	Application	Manual Therapy Integration: Soft tissue mobilization. Grade I–II joint mobilizations. Muscle energy techniques. Integration with exercise prescription.	Practical workshop	Practical assessment
14th	4 practical	Application	Full Case Simulation – Part 1: Student groups manage complete clinical cases (assessment → exercise program → progression). Peer feedback.	Full clinical simulation	Group practical assessment
15th	4 practical	Application	Full Case Simulation – Part 2 and Final Assessment: Final practical skill assessment. Program design presentation.	Clinical simulation, presentations	Final practical examination

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Kisner, C., Colby, L. A., & Borstad, J. (2017). Therapeutic Exercise: Foundations and Techniques (7th ed.). F.A. Davis Company.
Main References (Sources)	Houglum, P. A. (2016). Therapeutic Exercise for Musculoskeletal Injuries (4th ed.). Human Kinetics.
Recommended Books and References	Prentice, W. E. (2014). Rehabilitation Techniques in Sports Medicine (5th ed.). McGraw-Hill. Journal of Orthopaedic & Sports Physical Therapy (JOSPT).
Electronic References and Websites	JOSPT: jospt.org; Physiopedia – Therapeutic Exercise: physio-pedia.com

Level Four

NTU400 — Scientific Research Methodology

1. Course Name	Scientific Research Methodology
2. Course Code	NTU400
3. Semester / Year	First Semester / 2026-2027
4. Date of Preparation	15 / 6 / 2026
5. Available Attendance Forms	In-person theoretical lectures
6. Credit Hours / Units	2 theory hours / 2 units
7. Course Coordinator Name	Assist. Prof. Mazin Nadheer Farhan

8. Course Objectives

This course aims to equip Level 4 students with the basic concepts and tools of scientific research in physical therapy and health sciences, by giving them skills in formulating research questions and hypotheses, selecting appropriate research methodologies, analyzing and interpreting data, and writing the scientific report according to international academic standards, in preparation for completing the graduation research project in the second semester.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Identifying the foundations of scientific knowledge and the concept, ethics, and types of research (descriptive, analytical, experimental, systematic review). A2. Understanding the components of scientific research (research problem, hypothesis, variables, design, tools, statistical treatment) and distinguishing between quantitative and qualitative approaches. A3. Grasping the principles of literature review and searching scientific databases (PubMed, Scopus, Google Scholar, Cochrane) and documenting sources using the APA system. A4. Recognizing the concepts of Evidence-Based Practice (EBP) and levels of evidence and applying them in physical therapy practice.	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, clinical case studies, group discussions.
Assessment Methods	Daily tests, semester exams, final written and oral exams, weekly reports.

B. Skill Objectives Specific to the Course

B1. Formulating a measurable research question according to the PICO model and building a clear, specific research hypothesis. B2. Designing a simple research protocol that includes selecting the population and sample, measurement tools, and appropriate statistical treatment. B3. Applying basic statistical tests using SPSS or Excel and interpreting their results. B4. Writing a research proposal with sound academic structure (introduction, objectives, methodology, results, conclusions, references).	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, clinical case studies, group discussions.
Assessment Methods	Daily tests, semester exams, final written and oral exams, weekly reports.

C. Affective and Value-Based Objectives

C1. Strengthening the student's appreciation of the role of scientific research in developing clinical practice in physical therapy. C2. Instilling values of academic integrity and research ethics (informed consent, privacy, non-plagiarism). C3. Developing a spirit of critical thinking in evaluating scientific evidence and not accepting results without systematic review. C4. Encouraging the student to engage with research communities and publish study results in peer-reviewed journals.	
Teaching Methods	(In-person lectures), group discussions, clinical case studies.
Assessment Methods	Daily, semester, and final examinations; follow-up reports.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Developing academic writing and scientific documentation skills according to APA standards and mastering the formulation of the research abstract. D2. Acquiring advanced electronic search skills in medical databases and assessing study quality (JADAD, PEDro). D3. Refining skills for presenting research results orally and in writing in a clear, persuasive scientific style. D4. Preparing the student to complete the graduation research project and participate in producing scientific knowledge in the field of physical therapy.

10. Course Structure					
Week	**Hours**	**Learning Outcomes**	**Unit / Topic Name**	**Teaching Method**	**Assessment Method**

1st	2	Knowledge	Introduction to Scientific Research: Definition, importance, types. Ethics in research. Overview of evidence-based practice (EBP) in physiotherapy.	Whiteboard, PowerPoint slides	Reports, exams
2nd	2	Knowledge	Research Problem and Objectives: Identifying a research problem. PICO framework. Objectives and hypothesis formulation.	Whiteboard, formulation exercises	Reports, exams
3rd	2	Knowledge & Application	Literature Review and Database Search: PubMed, Scopus, Google Scholar, Cochrane. Search strategies (MeSH terms, Boolean operators). Critical appraisal.	Whiteboard, hands-on electronic search	Reports, exams
4th	2	Knowledge & Application	APA Referencing and Academic Writing: APA 7th edition citation rules. In-text citation and reference list. Plagiarism and academic integrity.	Whiteboard, citation exercises	Reports, exams
5th	2	Knowledge & Application	Research Designs – Quantitative: Experimental (RCT), quasi-experimental, observational (cohort, case-control, cross-sectional). Levels of evidence.	Whiteboard, PowerPoint slides	Reports, exams
6th	2	Knowledge & Application	Research Designs – Qualitative and Mixed Methods: Phenomenology, grounded theory, case study. When to use qualitative vs quantitative.	Whiteboard, PowerPoint slides	Reports, exams
7th	2	Knowledge & Application	Sampling and Data Collection: Population and sampling methods. Sample size estimation. Questionnaire design, interviews, observation.	Whiteboard, practical exercises	Reports, exams
8th	2	Knowledge & Application	Midterm Review: Research design concepts. PICO exercise review. Midterm examination.	Comprehensive review	Semester exam
9th	2	Knowledge & Application	Measurement and Validity: Reliability and validity. ICC, Cronbach's alpha, kappa coefficient. Clinimetrics in physiotherapy research.	Whiteboard, PowerPoint slides	Reports, exams
10th	2	Knowledge & Application	Descriptive Statistics: Measures of central tendency and dispersion. Normal distribution. SPSS/Excel data entry and basic analysis.	Whiteboard, hands-on SPSS/Excel	Reports, exams
11th	2	Knowledge & Application	Inferential Statistics – Part 1: Hypothesis testing, p-value, confidence interval. t-test (independent, paired). Chi-square. Practical application in SPSS.	Whiteboard, hands-on SPSS	Reports, exams
12th	2	Knowledge & Application	Inferential Statistics – Part 2: ANOVA, correlation (Pearson, Spearman). Regression basics. Common errors in data analysis.	Whiteboard, hands-on SPSS	Reports, exams
13th	2	Knowledge & Application	Writing the Research Proposal: Title, abstract, introduction, objectives, methodology, ethical considerations, timeline.	Whiteboard, writing workshop	Reports, exams

14th	2	Knowledge & Application	Systematic Reviews and Meta-Analysis: PRISMA guidelines. Forest plots and heterogeneity. PEDro and JADAD scales.	Whiteboard, PowerPoint slides	Reports, exams
15th	2	Knowledge & Application	Research Presentation and Publication: Scientific poster and oral presentation. Journal selection and submission. Introduction to graduation project requirements.	Student presentations, workshop	Written examinations

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Portney, L. G. (2020). Foundations of Clinical Research: Applications to Evidence-Based Practice (4th ed.). F.A. Davis Company.
Main References (Sources)	Greenhalgh, T. (2019). How to Read a Paper: The Basics of Evidence-Based Medicine (6th ed.). Wiley-Blackwell.
Recommended Books and References	Peat, J., Elliott, E., Baur, L., & Keena, V. (2002). Scientific Writing: Easy When You Know How. BMJ Books. Physiotherapy (Journal of the Chartered Society of Physiotherapy).
Electronic References and Websites	PubMed: pubmed.ncbi.nlm.nih.gov; PEDro: pedro.org.au; Cochrane Library: cochranelibrary.com

Level Four

MTCD401 — Preventive and Social Medicine

1. Course Name	Preventive and Social Medicine
2. Course Code	MTCD401
3. Semester / Year	First Semester / 2026-2027
4. Date of Preparation	15 / 6 / 2026
5. Available Attendance Forms	In-person theoretical lectures
6. Credit Hours / Units	2 theory hours / 2 units
7. Course Coordinator Name	Assist. Prof. Mazin Nadheer Farhan

8. Course Objectives

This course aims to provide the student with the basic concepts of preventive medicine, public health, and social medicine, and understanding the social and environmental determinants of health and disease, and the principles of epidemiology, immunization, and primary healthcare, enabling the student to contribute to prevention programs and promote community health within their role as a physical therapist on the healthcare team.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Identifying the concepts of health, disease, and preventive medicine at its three levels (primary, secondary, tertiary) and their relationship to the physical therapist's role. A2. Understanding the basic principles of epidemiology (prevalence, incidence, causative factors, chain of infection) and employing them in understanding musculoskeletal diseases. A3. Grasping the concepts of social determinants of health (income, education, environment) and their effect on access to physical therapy services. A4. Recognizing the principles of occupational health and safety in the healthcare work environment and occupational diseases related to the physical therapy profession.	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, clinical case studies, group discussions.
Assessment Methods	Daily tests, semester exams, final written and oral exams, weekly reports.

B. Skill Objectives Specific to the Course

B1. Applying health-education concepts and designing awareness messages directed at patients and their families about preventing chronic diseases. B2. Analyzing the community health situation using basic epidemiological tools and identifying groups most at risk of physical disability. B3. Describing the physical therapist's role in community health programs and Community-Based Rehabilitation (CBR). B4. Formulating a simple health-education plan for one of the common non-communicable diseases for a specific community group.	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, clinical case studies, group discussions.
Assessment Methods	Daily tests, semester exams, final written and oral exams, weekly reports.

C. Affective and Value-Based Objectives

C1. Developing awareness of the social responsibility of the physical therapist as an active member in promoting community health. C2. Strengthening professional belonging and recognizing that prevention is an integral part of physical therapy practice, not a supplement to it. C3. Instilling values of respect for the cultural and social diversity of patients in providing preventive health services. C4. Encouraging the student to engage in community initiatives to raise awareness of the importance of physical activity and disability prevention.	
Teaching Methods	(In-person lectures), group discussions, clinical case studies.
Assessment Methods	Daily, semester, and final examinations; follow-up reports.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Developing communication skills with the community and delivering preventive health messages in a manner suited to the target audience. D2. Acquiring epidemiological thinking skills in analyzing public health problems and identifying priorities for preventive intervention. D3. Refining skills for working within the multidisciplinary healthcare team in community health programs. D4. Preparing the student to contribute to community rehabilitation programs and develop local health policies.

10. Course Structure					
Week	**Hours**	**Learning Outcomes**	**Unit / Topic Name**	**Teaching Method**	**Assessment Method**

1st	2	Knowledge	Introduction to Preventive and Social Medicine: Concepts of health and disease. Levels of prevention. Role of PT in preventive healthcare.	Whiteboard, PowerPoint slides	Reports, exams
2nd	2	Knowledge	Epidemiology Basics – Part 1: Definition and scope. Key measures: prevalence, incidence, mortality rates. Epidemiological transition.	Whiteboard, PowerPoint slides	Reports, exams
3rd	2	Knowledge	Epidemiology Basics – Part 2: Study designs overview (cohort, case-control, cross-sectional, RCT). Causation vs correlation. Bias and confounding.	Whiteboard, PowerPoint slides	Reports, exams
4th	2	Knowledge	Social Determinants of Health: WHO framework. Impact of income, education, housing on health. Health inequalities and PT access.	Whiteboard, group discussions	Reports, exams
5th	2	Knowledge	Communicable Disease Control: Chain of infection. Prevention of healthcare-associated infections. Iraqi national immunization program.	Whiteboard, PowerPoint slides	Reports, exams
6th	2	Knowledge	Non-Communicable Diseases (NCDs): Global burden of NCDs (cardiovascular, diabetes, musculoskeletal). Risk factor modification. PT role in NCD prevention.	Whiteboard, PowerPoint slides	Reports, exams
7th	2	Knowledge & Application	Health Promotion and Education: Principles and behavior change theories (Health Belief Model, TTM). Designing health promotion messages for PT patients.	Whiteboard, design workshop	Reports, exams
8th	2	Knowledge	Midterm Review: Epidemiology and social determinants review. Case-based discussion. Midterm examination.	Comprehensive review	Semester exam
9th	2	Knowledge	Primary Healthcare and Rehabilitation: WHO Alma-Ata Declaration. PHC components. Community-Based Rehabilitation (CBR) model and PT role.	Whiteboard, PowerPoint slides	Reports, exams
10th	2	Knowledge	Occupational Health and Safety: Work-related musculoskeletal disorders (WMSDs). Ergonomics. Workplace injury prevention. PT in occupational health.	Whiteboard, PowerPoint slides	Reports, exams
11th	2	Knowledge	Environmental Health: Environmental determinants of musculoskeletal and respiratory diseases. Climate change and health. PT in disaster rehabilitation.	Whiteboard, PowerPoint slides	Reports, exams
12th	2	Knowledge	Maternal and Child Health: Antenatal and postnatal PT. Childhood disability prevention. School health programs.	Whiteboard, PowerPoint slides	Reports, exams
13th	2	Knowledge	Aging and Geriatric Public Health: Demographic transition in Iraq. Falls prevention programs. Long-term care and PT services.	Whiteboard, PowerPoint slides	Reports, exams
14th	2	Knowledge & Application	Mental Health and Disability: Biopsychosocial model. ICF (International Classification of	Whiteboard, discussions	Reports, exams

			Functioning) framework in community PT.		
15th	2	Knowledge & Application	Iraqi Healthcare System and Health Policy: Structure of Iraqi healthcare. National health strategy. PT service development in Iraq. Final review.	Whiteboard, open discussion	Written examinations

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Park, K. (2021). Park's Textbook of Preventive and Social Medicine (26th ed.). M/s Banarsidas Bhanot Publishers.
Main References (Sources)	Bonita, R., Beaglehole, R., & Kjellstrom, T. (2006). Basic Epidemiology (2nd ed.). World Health Organization.
Recommended Books and References	WHO (2010). Community-Based Rehabilitation: CBR Guidelines. World Health Organization. Journal of Public Health (Oxford University Press).
Electronic References and Websites	World Health Organization: who.int; Iraqi Ministry of Health: moh.gov.iq

Level Four

PTT408 — Hearing and Speech Rehabilitation

1. Course Name	Hearing and Speech Rehabilitation
2. Course Code	PTT408
3. Semester / Year	Second Semester / 2026-2027
4. Date of Preparation	15 / 6 / 2026
5. Available Attendance Forms	In-person theoretical and practical lectures
6. Credit Hours / Units	2 theory hours + 3 practical hours / 3 units
7. Course Coordinator Name	Assist. Prof. Mazin Nadheer Farhan

8. Course Objectives

This course aims to provide the student with a comprehensive understanding of hearing and speech disorders and their relationship to physical therapy, through studying the anatomy and physiology of the auditory and articulatory systems, the causes and types of hearing and speech disabilities, and rehabilitation protocols within multidisciplinary teams, with a focus on the physical therapist's role in the orofacial musculoskeletal aspect and integrated functional rehabilitation.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Identifying the anatomy of the auditory system, the physiology of hearing, and classifications of hearing loss (conductive, sensorineural, mixed). A2. Understanding the anatomy of the speech and swallowing apparatus and the types of speech and communication disorders (aphasia, dysarthria, stuttering, voice disorders). A3. Grasping basic auditory assessment tools (Audiometry, Tympanometry) and interpreting their results, and becoming familiar with hearing aids and cochlear implants. A4. Recognizing the principles of integrated functional rehabilitation for the hard of hearing and patients with communication disorders, and the physical therapist's role within this team.	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, clinical case studies, group discussions.
Assessment Methods	Daily tests, semester exams, final written and oral exams, weekly reports.

B. Skill Objectives Specific to the Course

B1. Conducting an initial examination of facial, oral, and laryngeal muscle function (orofacial assessment) and identifying motor disorders affecting speech and swallowing. B2. Applying orofacial myofunctional therapy exercises for facial palsy cases and swallowing disorders (dysphagia). B3. Communicating professionally with the speech therapist and preparing joint reports for swallowing-disorder cases in stroke and cerebral palsy patients. B4. Guiding the patient and their family on alternative communication mechanisms (AAC) and hearing and speech assistive devices.	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, clinical case studies, group discussions.
Assessment Methods	Daily tests, semester exams, final written and oral exams, weekly reports.

C. Affective and Value-Based Objectives

C1. Developing empathy and patience in communicating with patients with hearing and speech disorders. C2. Strengthening a culture of respect and inclusion with deaf and hard-of-hearing individuals and recognizing their cultural identity. C3. Instilling awareness of the importance of functional swallowing rehabilitation and the clinical danger of neglecting this aspect. C4. Encouraging the student to develop non-verbal communication skills to provide therapeutic service to these groups.	
Teaching Methods	(In-person lectures), group discussions, clinical case studies.
Assessment Methods	Daily, semester, and final examinations; follow-up reports.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Developing teamwork skills with speech therapists and ENT physicians on the multidisciplinary team. D2. Acquiring clinical documentation skills for swallowing-disorder cases according to the standardized ASHA protocol. D3. Refining professional communication skills with the patient using alternative methods (sign language, writing, digital applications). D4. Preparing the student to work in centers for the deaf and hard of hearing and swallowing-rehabilitation units in specialized hospitals.

10. Course Structure					
Week	**Hours**	**Learning Outcomes**	**Unit / Topic Name**	**Teaching Method**	**Assessment Method**

1st	2+3	Knowledge	Anatomy of the Auditory System: External, middle, and inner ear. Vestibular anatomy. Physiology of hearing and sound processing. Introduction to audiological tests.	Whiteboard, PowerPoint slides	Reports, exams
2nd	2+3	Knowledge	Types and Causes of Hearing Loss: Conductive vs sensorineural vs mixed. Congenital and acquired causes. Audiogram interpretation. Noise-induced hearing loss.	Whiteboard, sample audiograms	Reports, exams
3rd	2+3	Knowledge & Application	Hearing Aids and Cochlear Implants: Types of hearing aids. Cochlear implant surgery and rehabilitation. PT role post-implant: balance and vestibular rehabilitation.	Whiteboard, PowerPoint slides	Reports, exams
4th	2+3	Knowledge	Anatomy of Speech and Swallowing: Oral, pharyngeal, laryngeal anatomy. Physiology of speech. Phases of swallowing. Neural control of speech and swallowing.	Whiteboard, anatomical models	Reports, exams
5th	2+3	Knowledge	Speech and Language Disorders: Aphasia (Broca, Wernicke). Dysarthria types. Apraxia of speech. Stuttering. Voice disorders (dysphonia).	Whiteboard, PowerPoint slides	Reports, exams
6th	2+3	Knowledge & Application	Dysphagia – Assessment and Management: Bedside swallowing assessment. Modified Barium Swallow (MBS). Dysphagia in stroke, TBI, and PD. PT role in dysphagia rehabilitation.	Whiteboard, assessment practical	Reports, exams
7th	2+3	Knowledge & Application	Orofacial Physiotherapy: Orofacial myofunctional therapy. Bell's palsy PT management. NMES for dysphagia. Exercises for orbicularis oris, buccinator, masseter.	Whiteboard, lab practical	Reports, exams
8th	2+3	Knowledge & Application	Midterm Review: Audiology, speech disorders, and dysphagia. Case-based discussion. Midterm examination.	Comprehensive review	Semester exam
9th	2+3	Knowledge & Application	Hearing Rehabilitation Programs: Auditory training. Lip-reading (speechreading). Rehabilitation after cochlear implant. Pediatric hearing rehabilitation.	Whiteboard, PowerPoint slides	Reports, exams
10th	2+3	Knowledge & Application	Speech Rehabilitation in Neurological Conditions: PT and SLP collaboration in stroke, TBI, CP. NMES for swallowing. MDT dysphagia protocols.	Whiteboard, training practical	Reports, exams
11th	2+3	Knowledge & Application	Augmentative and Alternative Communication (AAC): Low-tech and high-tech AAC systems. Communication boards. Digital AAC apps. PT role in positioning for AAC access.	Whiteboard, PowerPoint slides	Reports, exams
12th	2+3	Knowledge & Application	Vestibular Rehabilitation (Advanced): VOR exercises. Canalith repositioning for BPPV. Chronic vestibular hypofunction. Falls prevention in hearing-impaired elderly.	Whiteboard, lab practical	Reports, exams

13th	2+3	Knowledge & Application	Pediatric Communication Disorders: Hearing loss in children and early intervention. Cleft palate: PT and SLP roles. School reintegration support.	Whiteboard, PowerPoint slides	Reports, exams
14th	2+3	Knowledge & Application	Documentation and MDT Reporting: ASHA documentation standards. Interdisciplinary report writing. Case conference simulation.	Documentation workshop, role-play	Reports, exams
15th	2+3	Knowledge & Application	Comprehensive Review and Case Presentations: Student cases integrating hearing/speech/swallowing with PT management. Final exam preparation.	Student presentations, review	Comprehensive exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Katz, J., Chasin, M., English, K., Hood, L. J., & Tillery, K. L. (2015). Handbook of Clinical Audiology (7th ed.). Lippincott Williams & Wilkins.
Main References (Sources)	Logemann, J. A. (1998). Evaluation and Treatment of Swallowing Disorders (2nd ed.). Pro-Ed. ASHA Clinical Practice Guidelines.
Recommended Books and References	Freed, D. B. (2012). Motor Speech Disorders (2nd ed.). Delmar Cengage Learning. Dysphagia Journal (Springer).
Electronic References and Websites	American Speech-Language-Hearing Association: asha.org; Physiopedia – Dysphagia and Orofacial: physio-pedia.com

Level Four

PTT409 — Health Psychology

1. Course Name	Health Psychology
2. Course Code	PTT409
3. Semester / Year	Second Semester / 2026-2027
4. Date of Preparation	15 / 6 / 2026
5. Available Attendance Forms	In-person theoretical and practical lectures
6. Credit Hours / Units	2 theory hours + 3 practical hours / 3 units
7. Course Coordinator Name	Assist. Prof. Mazin Nadheer Farhan

8. Course Objectives

This course aims to provide the student with the basic concepts of health psychology and its relationship to clinical physical therapy practice, through understanding the interaction between the physical, psychological, and social dimensions in illness and recovery, and recognizing common psychological disorders (depression, anxiety, PTSD) and their effect on the course of rehabilitation, while equipping the student with psychological communication and basic support skills in the physical therapy environment.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Identifying the basic concepts of health psychology and the Biopsychosocial Model and its applications in physical therapy. A2. Understanding common psychological disorders in the rehabilitation environment (depression, chronic anxiety, PTSD, adjustment disorders) and their effect on treatment compliance and recovery. A3. Grasping the psychological concepts of chronic pain management (Pain Catastrophizing, Fear-Avoidance Model, Central Sensitization) and their relationship to motor rehabilitation. A4. Recognizing the principles of therapeutic communication and active-listening techniques and motivational interviewing (MI).	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, clinical case studies, group discussions.
Assessment Methods	Daily tests, semester exams, final written and oral exams, weekly reports.

B. Skill Objectives Specific to the Course

B1. Applying basic therapeutic communication skills (active listening, empathy, reframing) in physical therapy sessions. B2. Using psychological symptom-measurement tools (PHQ-9, GAD-7, Tampa Scale for Kinesiophobia, PCS) and interpreting their results clinically. B3. Applying multidimensional chronic-pain management principles (Pain Education, Graded Exposure, Pacing) within the treatment protocol. B4. Identifying signs of psychological crisis that warrant referral to a psychiatrist and applying the professional referral protocol.	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, clinical case studies, group discussions.
Assessment Methods	Daily tests, semester exams, final written and oral exams, weekly reports.

C. Affective and Value-Based Objectives

C1. Strengthening self-awareness of the psychological impact of the physical therapy profession on the practitioner themselves (burnout, compassion fatigue) and methods of prevention. C2. Instilling values of respect, discretion, and privacy in handling patients' psychological information. C3. Developing cultural competence in dealing with patients from different backgrounds, taking cultural and religious factors into account. C4. Encouraging the student to adopt the biopsychosocial model as a comprehensive framework for dealing with the patient.	
Teaching Methods	(In-person lectures), group discussions, clinical case studies.
Assessment Methods	Daily, semester, and final examinations; follow-up reports.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Developing motivational interviewing (MI) skills and employing them to motivate treatment adherence and change the patient's health behavior. D2. Acquiring personal stress-management skills and maintaining psychological balance while dealing with complex cases. D3. Refining clinical-writing skills that integrate psychosocial dimensions into assessment reports and the treatment plan. D4. Preparing the student to work efficiently within multidisciplinary care teams that include psychiatrists and social workers.

10. Course Structure					
Week	**Hours**	**Learning Outcomes**	**Unit / Topic Name**	**Teaching Method**	**Assessment Method**

1st	2+3	Knowledge	Introduction to Health Psychology: Biopsychosocial vs biomedical model. Psychological factors in physical illness. PT implications.	Whiteboard, PowerPoint slides	Reports, exams
2nd	2+3	Knowledge	Stress, Coping, and Health: Physiological stress response (HPA axis). Types of stressors. Coping strategies. Stress and musculoskeletal pain.	Whiteboard, PowerPoint slides	Reports, exams
3rd	2+3	Knowledge	Depression in Rehabilitation: DSM-5 criteria. Prevalence in chronic musculoskeletal conditions. PHQ-9 screening. Impact on PT compliance and outcomes.	Whiteboard, PowerPoint slides	Reports, exams
4th	2+3	Knowledge	Anxiety Disorders and PT: GAD, panic disorder, social anxiety. GAD-7. Anxiety and pain perception. Breathing retraining.	Whiteboard, PowerPoint slides	Reports, exams
5th	2+3	Knowledge & Application	PTSD and Trauma-Informed Care: DSM-5 criteria. PTSD in traumatic injury, SCI, burn survivors. Trauma-informed care principles in PT.	Whiteboard, case studies	Reports, exams
6th	2+3	Knowledge & Application	Chronic Pain Psychology: Fear-Avoidance Model. Pain Catastrophizing (PCS). Central sensitization. Pain Neuroscience Education (PNE). Graded exposure.	Whiteboard, pain-education practical	Reports, exams
7th	2+3	Knowledge & Application	Kinesiophobia and Movement Fear: Tampa Scale (TSK). Psychological barriers to physical activity. Graded activity and pacing in chronic LBP.	Whiteboard, practical	Reports, exams
8th	2+3	Knowledge & Application	Midterm Review: Biopsychosocial model, mental health tools, chronic pain psychology. Midterm examination.	Comprehensive review	Semester exam
9th	2+3	Knowledge & Application	Therapeutic Communication Skills: Active listening, empathy, open-ended questions. OARS technique. Role-play practice sessions.	Practical communication workshop	Reports, exams
10th	2+3	Knowledge & Application	Motivational Interviewing (MI) in PT: RULE principles. MI techniques: reflective listening, affirmation, eliciting change talk. Adherence counseling application.	Applied MI workshop	Reports, exams
11th	2+3	Knowledge & Application	Behavior Change Theories in PT: Transtheoretical Model (TTM). Health Belief Model. Self-efficacy and rehabilitation outcomes.	Whiteboard, PowerPoint slides	Reports, exams
12th	2+3	Knowledge & Application	Psychological Aspects of Disability and Adjustment: Grief model in acquired disability. Body image and self-concept. Quality of life in PT context.	Whiteboard, discussions	Reports, exams
13th	2+3	Knowledge & Application	Burnout and Self-Care for PT Practitioners: Burnout phases. Compassion fatigue. Mindfulness-based stress reduction (MBSR) basics. PT practitioner well-being.	Whiteboard, self-care workshop	Reports, exams

14th	2+3	Knowledge & Application	Mental Health Referral and MDT Collaboration: Red flags for urgent psychiatric referral. Documentation of psychological concerns. Psychologically-informed physiotherapy (PiP).	Whiteboard, role-play	Reports, exams
15th	2+3	Knowledge & Application	Comprehensive Review and Reflective Practice: Biopsychosocial integration across PT specialties. Student reflective presentations. Final exam preparation.	Reflective presentations, review	Comprehensive exams

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Main, C. J., Sullivan, M. J. L., & Watson, P. J. (2008). Pain Management: Practical Applications of the Biopsychosocial Perspective (2nd ed.). Churchill Livingstone.
Main References (Sources)	Miller, W. R., & Rollnick, S. (2013). Motivational Interviewing: Helping People Change (3rd ed.). Guilford Press.
Recommended Books and References	Linton, S. J., & Shaw, W. S. (2011). Impact of Psychological Factors in Pain. Physical Therapy, 91(5), 700–711. Journal of Health Psychology (SAGE).
Electronic References and Websites	Pain Health – Pain Management Resources: painhealth.csse.uwa.edu.au; Physiopedia – Psychologically Informed Practice: physio-pedia.com

Level Four

MTCD402 — Serology and Vaccines

1. Course Name	Serology and Vaccines
2. Course Code	MTCD402
3. Semester / Year	Second Semester / 2026-2027
4. Date of Preparation	15 / 6 / 2026
5. Available Attendance Forms	In-person theoretical lectures
6. Credit Hours / Units	2 theory hours / 2 units
7. Course Coordinator Name	Assist. Prof. Mazin Nadheer Farhan

8. Course Objectives

This course aims to provide the student with basic knowledge of hematology, immunology, serology, and vaccinations and their relationship to clinical physical therapy practice, through understanding the components of blood and their functions, the principles of the immune system and immune response, classifications of immune diseases affecting the musculoskeletal system, and the foundations of immunization and preventive vaccinations related to the healthcare work environment.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Identifying the components of blood (red blood cells, white blood cells, platelets, plasma) and their functions, and reading a Complete Blood Count (CBC) in the clinical context. A2. Understanding the principles of the immune system (innate and acquired immunity, antibodies, immune cells) and the immune response to infection and injury. A3. Grasping autoimmune diseases relevant to physical therapy (rheumatoid arthritis, lupus erythematosus, ankylosing spondylitis) and the role of immunity in their development. A4. Recognizing the principles of immunization and vaccinations according to the Iraqi national program, and the importance of occupational vaccines for healthcare sector workers.	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, clinical case studies, group discussions.
Assessment Methods	Daily tests, semester exams, final written and oral exams, weekly reports.

B. Skill Objectives Specific to the Course

B1. Reading basic CBC results and interpreting abnormal values in the context of the clinical case and their impact on the treatment plan. B2. Identifying serological inflammation markers (CRP, ESR, RF, ANA) in laboratory reports and linking them to common rheumatic conditions. B3. Applying appropriate clinical precautions when dealing with autoimmune disease patients and adjusting exercise intensity. B4. Describing appropriate infection-control protocols in light of the transmission routes of serological and bloodborne diseases.	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, clinical case studies, group discussions.
Assessment Methods	Daily tests, semester exams, final written and oral exams, weekly reports.

C. Affective and Value-Based Objectives

C1. Developing awareness of the importance of self-protection and commitment to occupational preventive vaccinations for the physical therapist. C2. Strengthening commitment to infection-control procedures and protection from bloodborne and serologically transmitted diseases. C3. Instilling awareness of the rights of patients with immune diseases to receive safe physical therapy care. C4. Encouraging the student to continuously follow WHO recommendations and national vaccination guidelines.	
Teaching Methods	(In-person lectures), group discussions, clinical case studies.
Assessment Methods	Daily, semester, and final examinations; follow-up reports.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Developing skills for reading hematological and serological laboratory reports and employing them in adjusting the treatment plan. D2. Acquiring communication skills with the medical team regarding updates on the immune and laboratory status and their effect on rehabilitation. D3. Refining health-education skills for patients regarding the importance of vaccinations and prevention of immune diseases. D4. Preparing the student to deal with patients in high-risk clinical environments (oncology units, immunosuppression) with professional awareness and clinical safety.

10. Course Structure					
Week	**Hours**	**Learning Outcomes**	**Unit / Topic Name**	**Teaching Method**	**Assessment Method**

1st	2	Knowledge	Introduction to Hematology: Blood composition and functions. Hematopoiesis. CBC: parameters and clinical significance.	Whiteboard, PowerPoint slides	Reports, exams
2nd	2	Knowledge	Anemia and PT Implications: Types of anemia (iron-deficiency, B12/folate, hemolytic, aplastic). Impact on exercise tolerance and PT planning.	Whiteboard, PowerPoint slides	Reports, exams
3rd	2	Knowledge	White Blood Cell Disorders: Leukocytosis and leukopenia. Leukemia overview. PT in hematological malignancies: precautions and exercise-based rehabilitation.	Whiteboard, PowerPoint slides	Reports, exams
4th	2	Knowledge	Coagulation and Bleeding Disorders: Hemostasis mechanism. Thrombocytopenia. Hemophilia. DVT and anticoagulation: PT precautions and contraindications.	Whiteboard, PowerPoint slides	Reports, exams
5th	2	Knowledge	Principles of Immunology: Innate vs adaptive immunity. B cells, T cells, NK cells. Antibody classes. Complement system. Hypersensitivity reactions.	Whiteboard, PowerPoint slides	Reports, exams
6th	2	Knowledge	Serology and Laboratory Tests: CRP, ESR, RF, ANA, Anti-dsDNA, HLA-B27. Interpretation in musculoskeletal and rheumatological conditions.	Whiteboard, sample laboratory reports	Reports, exams
7th	2	Knowledge & Application	Autoimmune Diseases – Part 1: Rheumatoid arthritis: pathophysiology, DMARDs, PT management. Systemic lupus erythematosus (SLE): PT approach.	Whiteboard, case studies	Reports, exams
8th	2	Knowledge & Application	Midterm Review: Hematology, immunology, serology review. Case-based laboratory interpretation. Midterm examination.	Comprehensive review	Semester exam
9th	2	Knowledge & Application	Autoimmune Diseases – Part 2: Ankylosing spondylitis (AS). PT exercise protocols. Sjögren's syndrome overview.	Whiteboard, PowerPoint slides	Reports, exams
10th	2	Knowledge	Infectious Diseases – Bloodborne Pathogens: HIV/AIDS: transmission and precautions. Hepatitis B and C: universal precautions. Long-haul COVID-19 PT.	Whiteboard, PowerPoint slides	Reports, exams
11th	2	Knowledge	Vaccines and Immunization Principles: Types of vaccines (live-attenuated, inactivated, subunit, mRNA). Herd immunity. Cold chain. Adverse effects management.	Whiteboard, PowerPoint slides	Reports, exams
12th	2	Knowledge	Occupational Immunization for Healthcare Workers: Hepatitis B, influenza, COVID-19, MMR. Iraqi national immunization program. Post-exposure prophylaxis.	Whiteboard, PowerPoint slides	Reports, exams
13th	2	Knowledge	Oncology and Hematology – PT Applications: Cancer and immune system interaction. PT during	Whiteboard, PowerPoint slides	Reports, exams

			chemotherapy and radiotherapy. Lymphedema management overview.		
14th	2	Knowledge	Organ Transplantation and Immunosuppression: Transplant types. Immunosuppressive drugs and PT implications. Infection risk in immunocompromised patients.	Whiteboard, PowerPoint slides	Reports, exams
15th	2	Knowledge & Application	Comprehensive Review: Integration of hematology, immunology, serology, and vaccination in PT clinical practice. Final case analysis. Final exam preparation.	Comprehensive review	Written examinations

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Hoffbrand, A. V., & Moss, P. A. H. (2016). Hoffbrand's Essential Haematology (7th ed.). Wiley-Blackwell.
Main References (Sources)	Abbas, A. K., Lichtman, A. H., & Pillai, S. (2022). Cellular and Molecular Immunology (10th ed.). Elsevier.
Recommended Books and References	Goodman, C. C., & Snyder, T. E. K. (2013). Differential Diagnosis for Physical Therapists (5th ed.). Elsevier Saunders. Annals of the Rheumatic Diseases (BMJ).
Electronic References and Websites	World Health Organization – Immunization: who.int/immunization; Physiopedia – Rheumatological Conditions: physio-pedia.com

Level Four

MTCD403 — Graduation Project

1. Course Name	Graduation Project
2. Course Code	MTCD403
3. Semester / Year	Second Semester / 2026-2027
4. Date of Preparation	15 / 6 / 2026
5. Available Attendance Forms	Individual and group academic supervision
6. Credit Hours / Units	4 units
7. Course Coordinator Name	Assist. Prof. Mazin Nadheer Farhan

8. Course Objectives

This course aims to enable the student to apply the research knowledge and skills acquired throughout their academic journey to complete an original scientific research project in the field of physical therapy according to sound scientific methodology, and to defend it before the supervision and discussion committee, thereby strengthening critical research thinking and preparing the student for graduate studies and contributing to the development of professional knowledge.

9. Teaching and Learning Strategies

A. Knowledge Objectives

A1. Employing the methodological knowledge acquired from NTU400 in designing scientific research according to international academic standards. A2. Understanding research ethics with human subjects (ethics committee approval, informed consent, privacy protection) and adhering to them. A3. Grasping the standards for evaluating research quality and reading its results critically compared to recent scientific literature. A4. Recognizing the importance of publishing research results and sharing them in the local and regional academic community.	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, clinical case studies, group discussions.
Assessment Methods	Daily tests, semester exams, final written and oral exams, weekly reports.

B. Skill Objectives Specific to the Course

B1. Formulating a clear research question, a testable hypothesis, and specific objectives according to the SMART model in the field of physical therapy.

B2. Collecting data and analyzing it statistically using SPSS or Excel and interpreting the results in light of the research questions. B3. Writing a complete research report (introduction, literature review, methodology, results, discussion, conclusions, recommendations). B4. Presenting the research project before the discussion committee with confidence and professionalism while answering scientific questions.	
Teaching Methods	Theoretical and practical lectures, PowerPoint slides, clinical case studies, group discussions.
Assessment Methods	Daily tests, semester exams, final written and oral exams, weekly reports.

C. Affective and Value-Based Objectives

C1. Strengthening a sense of academic responsibility, scientific integrity, and commitment to professional standards throughout all stages of the project. C2. Instilling the value of perseverance and patience in facing research challenges (data-collection difficulties, sample limitations). C3. Developing readiness for constructive criticism and learning from supervisors' feedback with an open scientific spirit. C4. Encouraging the student to take pride in their contribution to producing knowledge and elevating the level of physical therapy research in Iraq.	
Teaching Methods	(In-person lectures), group discussions, clinical case studies.
Assessment Methods	Daily, semester, and final examinations; follow-up reports.

D. General and Transferable Skills (Other skills related to employability and personal development)

D1. Developing research-project-management skills (planning, scheduling, task allocation) within the framework of academic supervision. D2. Acquiring advanced academic writing skills and mastering source documentation according to APA and preparing an abstract for publication. D3. Refining scientific presentation skills and preparing the research poster for participation in conferences. D4. Preparing the student to engage in graduate studies and scientific research in the field of physical therapy locally and internationally.

10. Course Structure					
Week	**Hours**	**Learning Outcomes**	**Unit / Topic Name**	**Teaching Method**	**Assessment Method**
1st	Supervision	Application	Project Finalization and Supervisor Meeting: Final topic approval. Research protocol review. Ethics	Individual supervision meeting	Supervision follow-up

			committee submission preparation. Timeline setting.		
2nd	Supervision	Application	Literature Review Completion: Final systematic search and critical appraisal. Gap analysis. Theoretical framework finalization.	Supervision meeting	Literature review report
3rd	Supervision	Application	Methodology Chapter Writing: Finalize research design, sample, instruments, procedures. Ethical consent forms preparation.	Supervision meeting	Submission of methodology chapter
4th	Supervision	Application	Instrument Validation and Pilot Study: Reliability testing. Pilot data collection and analysis. Instrument modification if needed.	Supervision meeting	Pilot study report
5th	Supervision	Application	Data Collection – Phase 1: Beginning of main data collection. Participant recruitment. Data entry and initial review.	Field implementation	Data-collection records
6th	Supervision	Application	Data Collection – Phase 2: Continuation of data collection. Addressing practical challenges. Mid-project progress report.	Field implementation	Mid-project report
7th	Supervision	Application	Data Collection – Phase 3 and Completion: Final data collection. Dataset cleaning and preparation for analysis.	Field implementation	Closing of data collection
8th	Supervision	Application	Statistical Analysis – Part 1: Descriptive statistics. Data visualization. Normality testing. Preliminary findings.	Supervision meeting, SPSS	Preliminary analysis report
9th	Supervision	Application	Statistical Analysis – Part 2: Inferential statistics. Hypothesis testing. Effect size calculation. Final statistical output interpretation.	Supervision meeting, SPSS	Final analysis report
10th	Supervision	Application	Results Chapter Writing: Presenting findings in tables and figures. APA-compliant results chapter. Supervisor review and revision.	Supervision meeting, writing	Submission of results chapter
11th	Supervision	Application	Discussion and Conclusion Chapter Writing: Interpreting results in light of literature. Limitations. Recommendations. Conclusion writing.	Supervision meeting, writing	Submission of discussion chapter
12th	Supervision	Application	Full Draft Submission: Complete thesis draft to supervisor. Comprehensive review and feedback. Plagiarism check (iThenticate).	Supervision meeting	Submission of complete draft
13th	Supervision	Application	Revision and Final Corrections: Incorporating supervisor feedback. Final editing and proofreading. Reference list review. Abstract finalization.	Supervision meeting	Revised version
14th	Supervision	Application	Presentation Preparation: Designing PowerPoint presentation. Poster	Presentation training,	Final presentation review

			preparation. Oral defense rehearsal. Anticipating committee questions.	supervision meeting	
15th	Supervision	Application	Final Oral Defense: Formal presentation to examination committee. Q&A session. Incorporating committee recommendations. Final project submission.	Discussion committee	Final discussion and evaluation

11. Course Assessment
Student activities and reports, oral and written theoretical and practical examinations.

12. Learning and Teaching Resources	
Required Textbooks	Portney, L. G. (2020). Foundations of Clinical Research (4th ed.). F.A. Davis Company.
Main References (Sources)	American Psychological Association. (2020). Publication Manual of the APA (7th ed.). APA.
Recommended Books and References	Greenhalgh, T. (2019). How to Read a Paper (6th ed.). Wiley-Blackwell. PEDro Scale for Physiotherapy Research Quality.
Electronic References and Websites	PubMed: pubmed.ncbi.nlm.nih.gov; PEDro: pedro.org.au; Cochrane Library: cochranelibrary.com; APA Style: apastyle.apa.org