



Form: Course Syllabus	Form Number	EXC-01-02-02A
	Issue Number and Date	2/3/24/2022/2963 05/12/2022
	Number and Date of Revision or Modification	
	Deans Council Approval Decision Number	2/3/24/2023
	The Date of the Deans Council Approval Decision	23/01/2023
	Number of Pages	06

1.	Course Title	Gait analysis
2.	Course Number	1833201
3.	Credit Hours (Theory, Practical)	4 (Theory)
	Contact Hours (Theory, Practical)	4 hours/week
4.	Prerequisites/Corequisites	1.1833101 / Biomechanics 2.0502107 / Anatomy of the Head, Neck, and Chest
5.	Program Title	Bachelor's in Orthotics and Prosthetics
6.	Program Code	1803
7.	School/Center	School of Rehabilitation Sciences
8.	Academic Department	Orthotics and Prosthetics
9.	Course Level	Undergraduate
10.	Year of Study/Semester	2 nd year, second semester
11.	Program Degree	BSc in Orthotics and Prosthetics
12.	Other Departments involved in Teaching the course	None
13.	Main Teaching Instruction language	English
14.	Learning Types	<input checked="" type="checkbox"/> Face to Face <input type="checkbox"/> Blended <input type="checkbox"/> Fully Online
15.	Online Platform(s)	<input checked="" type="checkbox"/> Moodle <input checked="" type="checkbox"/> Microsoft Teams
16.	Issuing Date	December 27, 2024
17.	Revision Date	January 5, 2025



18. Course Coordinator

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19. Other Instructors

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20. Course Description

This course explores the kinematics and kinetics of the gait cycle, focusing on lower limb joint dynamics and muscular control. Students will develop the ability to differentiate normal from pathological gait patterns and classify various abnormalities. Emphasis is placed on diagnosing gait disorders and integrating analysis into clinical practice. The course bridges the gap between gait analysis, patient diagnosis, and orthotic or prosthetic treatment. students will be equipped with the skills to apply gait analysis in advanced clinical settings.



21. Program Learning Outcomes

Program Learning Outcomes Descriptors (PLOD)

PLO	National Qualification Framework Descriptors*		
	Knowledge (A)	Skills (B)	Competency (C)
1. Develop and integrate knowledge from foundational courses; including basic sciences, medical sciences, and research methods to reflect on rehabilitation sciences practice.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Demonstrate comprehensive knowledge and practical application of orthotics and prosthetics principles, including biomechanics, material science, device design, clinical application, emerging technologies, and evidence-based practices to support patient care and innovation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Apply orthotic and prosthetic skills and techniques in accordance with professional standards, integrating the effective use of equipment, materials, components, and emerging technologies to design and fabricate devices.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Perform comprehensive patient evaluations and develop individualized, evidence-based treatment plans, considering personal and environmental factors across diverse clinical settings.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. Compose effective oral and written communication for clinical and professional purposes including the use of information technology resources	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. Operate within interprofessional teams of healthcare providers, clients, communities, and organizations in traditional and emerging practices and illustrate the qualities of a lifelong learner	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. Apply leadership and management skills to advance Jordan and the global community scientifically, socially, and technologically in rehabilitation sciences.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8. Generate scientific research that advances rehabilitation practices locally and globally.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9. Employ critical thinking, clinical reasoning, and ethical principles to assess complex clinical situations, formulate informed decisions, and deliver patient-centered orthotic and prosthetic interventions.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10. Exhibit autonomy in clinical decision-making while identifying and overcoming the challenges in delivering patient-centered orthotic and prosthetic interventions, including managing complex cases and addressing resource limitations.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

*Choose only one descriptor for each PLO: knowledge, skills, or competencies.



22. Course Learning Outcomes: By the end of this course, the student is expected to achieve the following Learning outcomes:

CLO 1. Explain the biomechanical principles and phases of normal gait, including the temporal-spatial parameters and key muscular dynamics. **(knowledge/ Understand)**

CLO 2. Describe the kinematic and kinetic differences between normal and pathological gait, focusing on how joint and muscle function is altered in pathological conditions. **(knowledge/ Understand)**

CLO 3. Analyze gait deviations by applying theoretical frameworks to distinguish between normal and pathological gait patterns. **(Skills/ Analyze)**

CLO 4. Interpret quantitative and qualitative gait data to identify specific abnormalities and assess their clinical significance. **(Skills/ evaluate)**

CLO 5. Synthesize gait analysis data, integrating both normal and pathological gait patterns to inform clinical decision-making and develop personalized orthotic or prosthetic interventions. **(Competencies)**

Matrix of Course Learning Outcomes according to National Qualification Framework Descriptors

CLO Number	Knowledge		Skills				Competencies
	Remember	Understand	Apply	Analyze	Evaluate	Create	
1	X						
2	X						
3				X			
4					X		
5							X

23. Matrix linking Course Learning Outcomes (CLOs) with Program Learning Outcomes (PLOs)

CLO \ PLO*	1	2	3	4	5	6	7	8	9	10	**Descriptors		
	A	B	C										
1.	X										X		
2.	X										X		
3.				X								X	
4.				X								X	
5.					X					X			X

*Map each Course Learning Outcome to ONLY one Program Learning Outcome based on the Courses Matrix



** Descriptors are assigned based on (PLO) that was chosen and specified in the program learning outcomes matrix in item (21)

24. Topic Outline and Schedule:

1	1.1	Syllabus and General introduction: History and characteristics of human gait	-	Face to face	Moodle	Sync	-	-
	1.2	Gait phases	1	Face to face	Moodle	Sync	Exams	Refs.
	1.3	Gait Basic function						
	1.4	Gait Basic function:	1	Face to face	Moodle	Sync	Exams	
2	2.1	Gait Basic function:	1,2	Face to face	Moodle	Sync	Exams	
	2.2	Gait Basic function:	1,2	Face to face	Moodle	Sync	Exams	
	2.3	Normal gait: ankle & foot complex						
	2.4	Normal gait: ankle & foot complex	1-5	Face to face	Moodle	Sync	Exams	
3	3.1	Normal gait: ankle & foot complex	1-5	Face to face	Moodle	Sync	Exams	
	3.2	Normal gait: ankle & foot complex	1-5	Face to face	Moodle	Sync	Exams	
	3.3	Normal gait: Knee joint						
	3.4	Normal gait: Knee joint	1	Face to face	Moodle	Sync	Exams	
4	4.1	Normal gait: Knee joint	1-3	Face to face	Moodle	Sync	Exams	
	4.2	Normal gait: Knee joint	1-5	Face to face	Moodle	Sync	Exams	
	4.3	Normal gait: Hip joint						
	4.4	Normal gait: Hip joint	1-5	Face to face	Moodle	Sync	Exams	
5	5.1	Normal gait: Hip joint	1-5	Face to face	Moodle	Sync	Exams	
	5.2	Normal gait: Hip joint	1-5	Face to face	Moodle	Sync	Exams	
	5.3	Normal gait: Head, Trunk & pelvis						
	5.4	Normal gait: Head, Trunk & pelvis	1-5	Face to face	Moodle	Sync	Exams	
6	6.1	Normal gait: Arm	1-5	Face to face	Moodle	Sync	Exams	
	6.2	Total limb function & bilateral synergistic relationship	1-5	Face to face	Moodle	Sync	Exams	
	6.3	Total limb function & bilateral synergistic relationship						
	6.4	Total limb function & bilateral synergistic relationship	1-5	Face to face	Moodle	Sync	Exams	



7	7.1	Midterm Exam	1-5	Face to face	Moodle	Sync	Exams	
	7.2	Pathological gait: Pathological Mechanism	1-5	Face to face	-	Sync	-	
	7.3	Pathological gait: Pathological Mechanism						
	7.4	Pathological gait: Pathological Mechanism	1-5	Face to face	Moodle	Sync	Exams	
8	8.1	Pathological gait: Ankle & Foot gait deviations	1-5	Face to face	Moodle	Sync	Exams	
	8.2	Pathological gait: Ankle & Foot gait deviations	1-5	Face to face	Moodle	Sync	Exams	
	8.3	Pathological gait: Ankle & Foot gait deviations						
	8.4	Pathological gait: Ankle & Foot gait deviations	1-5	Face to face	Moodle	Sync	Exams	
9	9.1	Pathological gait: Ankle & Foot gait deviations	1-5	Face to face	Moodle	Sync	Exams	
	9.2	Pathological gait: Knee gait deviations	1-5	Face to face	Moodle	Sync	Exams	
	9.3	Pathological gait: Knee gait deviations						
	9.4	Pathological gait: Knee gait deviations	1-5	Face to face	Moodle	Sync	Exams	
10	10.1	Pathological gait: Knee gait deviations	1-5	Face to face	Moodle	Sync	Exams	
	10.2	Pathological gait: Hip gait deviations	1-5	Face to face	Moodle	Sync	Exams	
	10.3	Pathological gait: Hip gait deviations						
	10.4	Pathological gait: Hip gait deviations	1-5	Face to face	Moodle	Sync	Exams	
11	11.1	Pathological gait: Hip gait deviations	1-5	Face to face	Moodle	Sync	Exams	
	11.2	Pathological gait: Trunk & pelvic deviations	1-5	Face to face	Moodle	Sync	Exams	
	11.3	Pathological gait: Trunk & pelvic deviations						
	11.4	Pathological gait: Trunk & pelvic deviations	1-5	Face to face	Moodle	Sync	Exams	
12	12.1	Clinical considerations	1-5	Face to face	Moodle	Sync	Exams	
	12.2	Clinical considerations	1-5	Face to face	Moodle	Sync	Exams	
	12.3	Clinical considerations						
	12.4	Clinical considerations	1-5	Face to face	Moodle	Sync	Exams	
13	13.1	Student assignment presentation	1-5	Face to face	Moodle	Sync	Supervisor evaluation/ Rubric	
	13.2	Student assignment presentation	1-5	Face to face	Moodle	Sync	Supervisor evaluation/ Rubric	



	13.3	Student assignment presentation						
	13.4	Student assignment presentation	1-5	Face to face	Moodle	Sync	Supervisor evaluation/ Rubric	
14	14.1	Student assignment presentation	1-5	Face to face	Moodle	Sync	Supervisor evaluation/ Rubric	
	14.2	Student assignment presentation	1-5	Face to face	Moodle	Sync	Supervisor evaluation/ Rubric	
	14.3	Student assignment presentation	1-5	Face to face	Moodle	Sync	Supervisor evaluation/Rubric	
	14.4	Student assignment presentation						
15		Final Exam	1-5	Face to face	-	Sync	-	

25. Evaluation Methods:

Course Evaluation Plan						
Evaluation Activity	Mark*	Course Learning Outcomes				
		1	2	3	4	5
First Exam (mid exam)	30	x	x	x	x	x
Second Exam						
Final Exam	50	x	x	x	x	x
Classwork						
Evaluation of Semester work	Projects\Reports					
	Research\Worksheets					
	Fieldwork visits					
	Clinical and practical performance					
	Portfolio					
	Presentations	20	x	x	x	x
	Simulation/Modeling					
	Discussion					
	Quizzes					
	Exercises					
	Interviews					
	Conferences					
Any other evaluation activities approved by the faculty committee						
Total Marks (100%)						

* According to the instructions for granting a bachelor's degree



**According to the instructions of organizing semester work, tests, examinations, and grades for the bachelor's degree.

Mid-term exam descriptions table*

CLO no.	CLO Weight	Total no. of questions	Total exam mark	No. of questions per CLO	No. of questions/ cognitive level					
					Remember 30%	Understanding 20%	Applying 20%	Analyzing 10%	Evaluating 10%	Creating 10%
1		10	30							
2		10	30							
3		10	30							
4		0								
5		0								

* A table of descriptions is added in the case of courses that require a second exam.

Final exam descriptions table

CLO no.	CLO Weight	Total no. of questions	Total exam mark	No. of questions per CLO	No. of questions/ cognitive level					
					Remember 30%	Understanding 20%	Applying 20%	Analyzing 10%	Evaluating 10%	Creating 10%
1		10	50							
4		10	50							
3		10	50							
4		15	50							
5		5	50							

26. Course Requirements

Students should have internet connection, a computer and access to e-learning system. All lectures are face to face.

27. Course Policy

A- Attendance policies:



- Attendance will be taken periodically throughout the semester.
- Students are expected to attend and actively participate in all classes.
- Students are expected to be on time.
- When the student is unable to attend class, it is a courtesy to notify the instructor in advance using either e-mail.
- Repeated tardiness or leaving early will not be accepted.
- Students who miss class (or any portion of class) are responsible for the content. Any student who misses a class has the responsibility for obtaining copies of notes, handouts, assignments, etc. from class members who were present. If additional assistance is still necessary, an appointment should be scheduled with the instructor. Class time is not to be used to go over material with students who missed class(es).
- An absence of more than 15% of all the number of classes, which is equivalent of 8 lectures, requires that the student provides an official excuse to the instructor and the dean.
- If the excuse was accepted the student is required to withdraw from the module.
- If the excuse was rejected the student will fail, and mark of zero will be assigned as suggested by the laws and regulations of the University of Jordan.

B- Absences from exams and handing in assignments on time:

- The instructor will not do any make-up exams.
- Exceptions for make-up exams and late submission of class assignments will be made on a case-by-case basis for true personal emergencies that are described as accepted by the regulations of UJ (e.g., documented medical, personal, or family emergency).
- Make-up exams will be arranged if justifications for missing the exam satisfy the above. It is the student's responsibility to contact the instructor within 24 hours of the original exam to schedule a make-up session. A make-up exam should be taken within a week from the original exam date, unless the student can provide documentation that makes meeting that deadline impossible; otherwise, the recorded score for that exam for the student will be a zero.
- Late assignments will not be accepted and submission of assignments (due to unjustified absence from class) by other students

C- Health and safety procedures:

- Students will not be in direct contact with patients during this course.
- Students are not expected to use any heavy tools or equipment that might impose health and safety issues during this course.
- Students should work safely, including being able to select appropriate hazard control and risk management, reduction or elimination techniques in a safe manner in accordance with health and safety legislation.



- Students should understand the importance of and be able to maintain confidentiality.
- Students should understand the importance of and be able to obtain informed consent.
- Students should know the limits of their practice and when to seek advice or refer to another professional

D- Honesty policy regarding cheating, plagiarism, and misbehavior:

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

E- Grading policy:

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

F-Available university services that support achievement in the course:

- The University of Jordan provides many services to support social, health, and mental well-being of students in general and students with disabilities in specific. Students are advised to visit the Faculty of Students Affairs to learn more about those services.



- If you are a student with a disability for which you may request accommodations, please notify the staff of Services for Student with Disabilities (Faculty of Students Affairs) as soon as possible. Please also contact the instructor as soon as possible (email is acceptable) so the appropriate accommodations for this course can be made.

28. References

A- Required book(s), assigned reading and audio-visuals:

1. Clinical anatomy for medical students, (7th Ed.), Snell Richard S.
2. Gait analysis: normal and pathological function. New Jersey: SLACK. Jacquelyn Perry, M., 2010.

- Recommended books, materials, and media:

- Students should have internet connection, a computer and access to Microsoft Teams and the Moodle (e-learning system). All theory lectures will be given face to face and will be provided at the dashboard of the e-learning system.
- Articles and teaching materials provided by lecturer through the e-learning website
- Videos of practical content uploaded on Microsoft Stream, E-learning and YouTube

29. Additional Information

- This course builds on the knowledge that you have obtained in the Physics, anatomy, Orthopedics, Gait analysis and biomechanics so make sure that you prepare and revise the necessary information.
- This course is highly dependent on the e-learning website so make sure you have access to this platform and you can download the materials and access the lectures.
- If you require any further information, make sure to e-mail the instructor and arrange for a meeting during the announced office hours



Name of the Instructor or the Course Coordinator: Dr. Huthaifa Atallah	Signature: <i>Dr. HA</i>	Date: 2025
Name of the Head of Quality Assurance Committee/ Department Dr. Mahmoud Fatafta	Signature: MF	Date:
Name of the Head of Department Dr. Mahmoud Fatafta	Signature: MF	Date:
Name of the Head of Quality Assurance Committee/ School or CenterDR--Lara Khlaift-----	Signature: ...LK.....	Date: 2/11/2025
Name of the Dean or the DirectorDR--Lara Khlaift-----	Signature: ...LK.....	Date: 2/11/2025



Assignment Rubric

The University of Jordan
Faculty of Rehabilitation Sciences
Prosthetics and Orthotics Department

Student's name: _____ Student's roll no.: _____ Total score: ____ / 20

Criteria	Excellent	Good	Inadequate	Score
Content Knowledge (5 pts)	Demonstrates deep understanding of the case study; addresses all key tasks accurately and thoroughly. (5 pts)	Shows a good understanding but lacks depth or minor inaccuracies. (3 pts)	Content is inaccurate or irrelevant. (0 pts)	
Organization & Language (4 pts)	Clear structure (intro, tasks, main points, conclusion); smooth transitions; appropriate language. (4 pts)	Some structure; minor clarity or grammar issues. (2 pts)	Disorganized; difficult to follow; poor grammar. (0 pts)	
Delivery & Narration (4 pts)	Clear, engaging, expressive narration; consistent pace and tone. (4 pts)	Mostly clear; somewhat uneven pace or delivery. (2 pts)	Unclear or unengaging; poor pacing. (0 pts)	
Audio-Visual Quality (2 pts)	High-quality sound and visuals; supports message well. (2 pts)	Adequate quality; minor issues. (1 pt)	Poor quality; distracts or hinders understanding. (0 pts)	
Responses to Questions (5 pts)	Accurate, thoughtful answers to both questions; shows critical thinking. (5 pts)	Generally clear answers, with minor gaps. (3 pts)	Incomplete or inaccurate answers. (0 pts)	



Important Notes:

1. Plagiarism is strictly prohibited. Any assignment with a plagiarism rate exceeding 25% will receive a score of zero.
2. Identical assignments submitted by students from any class will result in a zero mark for all involved parties.
3. Failure to attend presentation lectures or submit the assignment report by the due date, without a valid excuse, will result in a score of zero.