مركز الاعتماد وضمان الجودة
ACCREDITATION & QUALITY ASSURANCE CENTER

THE VISION OF THE UNIVERSITY OF JORDAN

A university excelling in pedagogy, research, and innovation and advancing in global standing

THE MISSION OF THE UNIVERSITY OF JORDAN

Providing students with fulfilling learning experiences, conducting knowledge-producing research, and building firm societal ties, within an environment conducive to creativity, innovation, and entrepreneurship: making efficient use of resources and forging fruitful partnerships.

THE VISION OF THE SCHOOL OF REHABILITATION SCIENCES

Leadership in the creation and development of knowledge, and in the preparation of human resources aspiring for excellence regionally and internationally

THE MISSION OF THE SCHOOL OF REHABILITATION SCIENCES

To excel in the preparation and training of model rehabilitation personnel, who participate in the health and community sector, and provide the local and regional community with appropriate rehabilitation services based on needs. Through educational curricula that facilitates the implementation of up to date rehabilitation services based on the best available evidence.

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Course Syllabus

1	**Course title**	***Below knee orthoses***
2	**Course number**	***1833221***
3	**Credit hours**	***3 Theoretical***
	Contact hours (theory, practical)	***48 theoretical***
4	**Prerequisites**	***Successful completion of 1833201***
5	**Program title**	***BSc in prosthetics and orthotics***
6	**Program code**	***3***
7	**Awarding institution**	***The University of Jordan***
8	**School**	***School of Rehabilitation sciences***
9	**Department**	***Department of prosthetics and orthotics***
10	**Course level**	***Undergraduate***
11	**Year of study and semester (s)**	***Second year/Second semester***
12	**Other department (s) involved in teaching the course**	***NA***
13	**Main teaching language**	***English***
14	**Delivery method**	✓Face to face learning ☐Blended ☐Fully online
15	**Online platforms(s)**	✓Moodle ☐Microsoft Teams ☐Skype ☐Zoom ☐Others……***N/A***……
16	**Issuing/Revision Date**	***Feb 2024***

17 Course Coordinator:

Name***: Dr. Amneh Alshawabka*** Contact hours: ***Mon (2-4)***

Office number: ***528*** Phone number: ***06/5355000-23273***

Email: a.alshawabka@ju.edu.jo

18 Other instructors:

Name: N/A

Office number:

Phone number:

Email:

Contact hours

Name:

Office number:

Phone number:

Email:

Contact hours

19 Course Description:

This course covers the different conditions that may affect the foot- ankle complex and require orthotic intervention. Students will learn how to assess patients with such conditions and how to choose between the different available orthotic interventions. In addition, students will learn the biomechanical principles related to these orthoses and how to integrate these principles appropriately when treating a patient. Special emphases will be given on foot orthoses for diabetic foot. Throughout the course, students' skills in critical thinking, evidence-based practice and decision-making will be strengthened.

20 Course aims and outcomes:

A- Aims:

1- ***To provide the students with the knowledge about orthotics at the below knee level***
2- ***To understand the biomechanics associated with the different types of AFOs***
3- ***To understand the patho-biomechanics of lower limb deformities***
4- ***To formulate the best suited orthotic prescription for the patients***
5- ***To memorise the different AFO components***

B- Students Learning Outcomes (SLOs):

Upon successful completion of this course, students will be able to:

SLOs / **SLOs of the course**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**
1. Demonstrate a comprehensive understanding of the anatomical structures and biomechanical principles relevant to below knee orthoses, including their impact on foot-ankle complex function and various pathological conditions.					***X***								
2. Apply critical thinking skills to assess patients with foot-ankle complex disorders, identifying indications for orthotic intervention based on thorough patient evaluation, clinical findings, and individual patient needs.													***X***
3. Evaluate the efficacy of different orthotic interventions for specific foot-ankle pathologies, considering factors such as patient comfort, functional requirements, biomechanical alignment, and potential complications..							***X***						

4. Integrate evidence-based practice principles into the selection, design, and implementation of below knee orthoses, incorporating current research findings, clinical guidelines, and best practices to optimize patient outcomes and satisfaction.						***X***							
5. Develop proficiency in decision-making skills when choosing between various orthotic interventions for different foot-ankle conditions, weighing the benefits, risks, and patient preferences to deliver personalized orthotic care effectively.									***X***				

Program PILOs:

Knowledge

1. Develop and integrate knowledge from foundational courses to reflect on rehabilitation sciences practice.
2. Demonstrate knowledge of skills, techniques, therapeutic modalities, and contemporary trends in orthotic and prosthetic practice.

Skills

3. Demonstrate proficiency in communication skills with patients and other healthcare staff.
4. Apply the skills of managing health practice (i.e. prosthetics and orthotics) in different environments and for different patients.
5. Perform appropriate examinations and evaluations of patients, taking into account personal and environmental factors across diverse clinical settings.
6. Develop constructive methods for utilizing the appropriate equipment, materials, components, and technologies in constructing prosthetic and orthotic devices
7. Plan, develop, and implement treatment plans appropriate for each patient according to their age and needs within a broad and continuous series of necessary healthcare treatment plans.

Competency

8. Compose oral and written communication outputs for clinical and professional purposes and communicate effectively and professionally, both oral and written, with patients, caregivers, and other health professionals within the team.
9. Operate within inter-professional teams of healthcare providers, clients, communities, and organizations in traditional and emerging practices.

10. Apply leadership and management skills to advance Jordan and the global community scientifically, socially, and technologically in orthotics and prosthetic.
11. Illustrate the qualities of a lifelong learner.
12. Apply ethical principles to promote inclusion, participation, safety, and wellbeing for all clients.
13. Demonstrate appropriate competencies in research and evidence-based practice.

21. Topic Outline and Schedule:

Week	Lecture	Topic	Student Learning Outcome	Learning Methods (Face to Face/Blended/ Fully Online)	Platform	Synchronous / Asynchronous Lecturing	*Evaluation Methods*	Resources
1	1.1	*Syllabus and Review of lower limb gait*	-	*Face to face*	*NA*	*Synchronous*	*Exams*	-
	1.2	*Introduction to lower limb orthotics*	*1*	*Face to face*	*NA*	*Synchronous*	*Exams*	1,2,4, 8
	1.3	*Therapeutic benefits of ankle foot orthoses*	*1,3*	*Face to face*	*NA*	*Synchronous*	*Exams*	1-3
2	2.1	*Orthotic effectiveness and comfort principle*	*1,2*	*Face to face*	*NA*	*Synchronous*	*Exams*	1,4,5
	2.2	*The direct biomechanical effects of below knee orthoses*	*1-5*	*Face to face*	*NA*	*Synchronous*	*Exams*	1, 5-8

	2.3	***The indirect biomechanical effects of below knee orthoses***	***1-5***	***Face to face***	***NA***	***Synchronous***	***Exams***	1,5-8
3	**3.1**	***General orthotic considerations***	***4***	***Face to face***	***NA***	***Synchronous***	***Exams***	1
	3.2	***Materials used in orthotics***	***1-5***	***Face to face***	***NA***	***Synchronous***	***Exams***	1,2,3
4	**4.1**	***Conventional vs. Plastic AFO designs***	***5***	***Face to face***	***NA***	***Synchronous***	***Exams***	1
	4.2	***Alignment of ankle joint***	***1,3***	***Face to face***	***NA***	***Synchronous***	***Exams***	5-7
	4.3	***Stirrup, caliper & Foot plates***	***1-5***	***Face to face***	***NA***	***Synchronous***	***Exams***	1,2
5	**5.1**	***Stiffness of the AFO***	***3***	***Face to face***	***NA***	***Synchronous***	***Exams***	6,7
6	**6.1**	***The Orthotic prescription criteria***	**5**	***Face to face***	***NA***	***Synchronous***	***Exams***	1-7
7	**7.1**	***Conventional AFO***	***5***	***Face to face***	***NA***	***Synchronous***	***Exams***	1
	7.2	***Rigid AFO***	***3,5***	***Face to face***	***NA***	***Synchronous***	***Exams***	1,4,5, 6
	7.3	***PLS AFO***	***3,5***	***Face to face***	***NA***	***Synchronous***	***Exams***	1,5
	7.4	***Hinged AFO***	***3,5***	***Face to face***	***NA***	***Synchronous***	***Exams***	1
	7.5	***AFO with Flange***	***3,5***	***Face to face***	***NA***	***Synchronous***	***Exams***	1

	7.6	***PTB AFO***	***3,5***	***Face to face***	***NA***	***Synchronous***	***Exams***	1,5
	7.7	***GRAFO***	***3,5***	***Face to face***	***NA***	***Synchronous***	***Exams***	1.5
	7.8	***Spiral & hemi-spiral AFOs***	***3,5***	***Face to face***	***NA***	***Synchronous***	***Exams***	1,5
	7.9	***FES AFO***	***3,5***	***Face to face***	***NA***	***Synchronous***	***Exams***	1.5
	7.10	***SMO, UCBL insert and Others AFO types***	***3,5***	***Face to face***	***NA***	***Synchronous***	***Exams***	1.5
8	**8.1**	***Rigid AFO alignment***	***1-5***	***Face to face***	***NA***	***Synchronous***	***Exams***	4-7
		AFO tuning	***1-5***	***Face to face***	***NA***	***Synchronous***	***Exams***	4-7
9	**9.1**	***Trim line consideration***	***1-5***	***Face to face***	***NA***	***Synchronous***	***Exams***	1,2,3, 4
	9.2	***The orthotic delivery & training***	***1-5***	***Face to face***	***NA***	***Synchronous***	***Exams***	1
10	**10.1**	***Problem based learning 1***	***1-5***	***Face to face***	***NA***	***Synchronous***	***Assignment -***	**-**
	10.2	***Problem based learning 2***	***1-5***	***Face to face***	***NA***	***Synchronous***	***Assignment -***	**-**
	10.3	***Problem based learning 3***	***1-5***	***Face to face***	***NA***	***Synchronous***	***Assignment -***	**-**
11	**11.1**	***Foot Orthoses***	***1-5***	***Face to face***	***NA***	***Synchronous***	***Exams***	***1,2***
	11.2	***Medical Shoes***	***1-5***	***Face to face***	***NA***	***Synchronous***	***Exams***	***1.2***

References:

1. AAOS Atlas of Orthoses and Assistive Devices. Bertram Goldberg, John D. Hsu. 4th edition.
2. Lower Limb Orthotics; Orthotist supplement. New York University.
3. Lower Limb Orthotics; New York University.
4. Clinical anatomy for medical students, (7th Ed.), Snell Richard S.
5. Biomechanics: Principles and Application, Furey, Michael J. "Joint lubrication." (2000).
6. Biomechanics in Clinic and Research. Jim Richards.
7. Orthotics: A comprehensive Clinical Approach. Joan E. Edelstein, 1st edition, SLACK 2002.
8. Gait analysis: normal and pathological function. New Jersey: SLACK. Jacquelin Perry, M., 2010.

22 Evaluation Methods:

Opportunities to demonstrate achievement of the SLOs are provided through the following assessment methods and requirements:

Evaluation Activity	Mark	Topic(s)	SLOs	Period (Week)	Platform
Assignment	***20***	***Case studies***	***1-12***	***Week 12***	***Moodle, Face to face***
Mid-term exam	***30***	***1-6***	***1-8***	***Week 8***	***Face to face***
Final exam	***50***	***1-11***	***1-12***	***Week 16***	***Face to face***

23 Course Requirements

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

24 Course Policies:

A. Attendance policies:

1- Attendance will be taken periodically throughout the semester.
2- Students are expected to attend and actively participate in all classes.
3- Students are expected to be on time.

4- When the student is unable to attend class, it is a courtesy to notify the instructor in advance using either e-mail.

5- Repeated tardiness or leaving early will not be accepted.

6- 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).

7- An absence of more than 15% of all the number of classes, which is equivalent of 3 lectures, requires that the student provides an official excuse to the instructor and the dean.

8- If the excuse was accepted the student is required to withdraw from the module.

9- 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 submitting assignments on time:

1- The instructor will not do any make-up exams.

2- 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).

3- 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.

4- Late assignments will not be accepted and submission of assignments (due to unjustified absence from class) by other students will not be accepted regardless of how much work the student put into its preparation**.**

C- Health and safety procedures:

1- Students will not be in direct contact with patients during this course.

2- Students are not expected to use any heavy tools or equipment that might impose health and safety issues during this course.

3- 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.

4- Students should understand the importance of and be able to maintain confidentiality.

5- Students should understand the importance of and be able to obtain informed consent.

6- Students should know the limits of their practice and when to seek advice or refer to another professional

D- Honesty policy regarding cheating, plagiarism, misbehavior:

1- Students are expected to observe all University guidelines pertaining to academic misconduct.

2- 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.

3- 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.

4- 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.

5- Any forms of academic misconduct will be handled according to the University of Jordan guidelines.

E- **Grading policy**:

1. Grading for this course will be determined based upon the accumulation of points for variety of assignments and exams.
2. 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:**

1. 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.
2. 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.

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25 References:

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

1. AAOS Atlas of Orthoses and Assistive Devices. Bertram Goldberg, John D. Hsu. 4th edition.
2. Lower Limb Orthotics; Orthotist supplement. New York University.
3. Lower Limb Orthotics; New York University.
4. Clinical anatomy for medical students, (7th Ed.), Snell Richard S.
5. Biomechanics: Principles and Application, Furey, Michael J. "Joint lubrication." (2000).
6. Biomechanics in Clinic and Research. Jim Richards.
7. Orthotics: A comprehensive Clinical Approach. Joan E. Edelstein, 1st edition, SLACK 2002.

B- Recommended books, materials, and media:

- Students should have internet connection, a computer and access to Microsoft Teams and the 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

26 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 Course Coordinator: -***Dr. Amneh Alshawbka*** ------Signature: *Amneh*
Head of Curriculum Committee/Department: **- *Dr. Amneh Alshawbka*** - Signature: *Amneh*
Head of Curriculum Committee/Faculty: **Prof. Kamal Hadidi** Signature: ----------

Dean: