

## **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.

### **THE MISSION OF THE DEPARTMENT OF ORTHOTICS & PROSTHETICS**

Prosthetics are artificial extensions of the body. They are used to replace body parts that are missing from birth, lost through an injury or disease, or which require removal for medical purposes. Orthotics are orthopedic devices that control, guide, limit and/or immobilize joint or body segment; restrict movement in a given direction; assist some type of movement; reduce forces (weight bearing); aid fractures healing after the removal of a cast; correct the shape and/or function of the body, to provide easier movements or reduce pain.

Our mission is to provide Jordan and surrounding region with qualified orthotists and prosthetists who have the ability to evaluate individuals with various disabilities and provide them with adequate orthosis or prosthesis needed according to their clinical conditions. And to develop and encourage a core of innovative Orthotists and Prosthetists to intensively and exclusively focus on serving and developing the Orthotics and Prosthetics patients and field in Jordan and the nearby countries.

### **THE VISION OF THE DEPARTMENT OF ORTHOTICS & PROSTHETICS**

The vision of the department is to apply the criteria for accreditation of local and international, and start working in the clinic of the Orthotists and Prosthetists and receiving patients to provide proper medical service, in addition to participating in specialized scientific research to develop the Orthotists and Prosthetists.

## Course Syllabus

1	<b>Course title</b>	Lower Extremity Prosthetics for below knee amputations	
2	<b>Course number</b>	1833220	
3	<b>Credit hours</b>	Two hours practical	
	<b>Contact hours (theory, practical)</b>	32 hours practical	
4	<b>Prerequisites/corequisites</b>	0502008+ 1833100	
5	<b>Program title</b>	BSc in prosthetics and orthotics	
6	<b>Program code</b>	3	
7	<b>Awarding institution</b>	The University of Jordan	
8	<b>School</b>	Rehabilitation Sciences	
9	<b>Department</b>	Department of Prosthetics and Orthotics	
10	<b>Course level</b>	Undergraduate/ 4 <sup>th</sup> year	
11	<b>Year of study and semester (s)</b>	2023-4, 1 <sup>st</sup> semester	
12	<b>Other department (s) involved in teaching the course</b>	NA	
13	<b>Main teaching language</b>	English	
14	<b>Delivery method</b>	<input checked="" type="checkbox"/> Face to face learning (Hospital placement) <input type="checkbox"/> Blended <input type="checkbox"/> Fully online	
15	<b>Online platforms(s)</b>	<input type="checkbox"/> Moodle <input type="checkbox"/> Microsoft Teams <input type="checkbox"/> Skype <input type="checkbox"/> Zoom <input type="checkbox"/> Other E-learning	
16	<b>Issuing/Revision Date</b>	October 3, 2023	

### 17 Course Coordinator:

Name: Dr. Huthaifa Atallah Office number: 425 Email: h.atalla@ju.edu.jo	Contact hours: Sunday 11 - 13 & Tuesday 11 - 13 Phone number:
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### 18 Other instructors:

Name: Dr. Mahmoud Al Fatafta  
Office number:  
Phone number:  
Email:  
Contact hours:

Name:  
Office number:  
Phone number:  
Email:  
Contact hours:

### **19 Course Description:**

This course covers trans-tibial prostheses. The components (especially prosthetic foot-ankle mechanism), fabrication and the biomechanical principles related to them will be thoroughly described. This course also generally covers lower extremity amputation levels, causes and associated problems. 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. Classify different levels of lower limb amputation and recognize the procedure of the amputation and the related management
2. Determine proper prosthetic components of different lower limb prostheses and demonstrate skills required to fabricate lower limb prostheses.
3. Recognize the psychological effect of limb loss and disability and identify their influence on prosthetic and orthotic management.

**B- Students Learning Outcomes (SLOs):**

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

SLOs	SLO (1)	SLO (2)	SLO (3)	SLO (4)	SLO (5)	SLO (6)	SLO (7)	SLO (8)	SLO (9)	SLO (10)	SLO (11)	SLO (12)
SLOs of the course												
1. Memorize the different causes of lower limb amputation especially at the trans-tibial level	X	X	X	X	X							
2. Learn the different levels of amputation especially in the lower limb	X	X	X	X	X							
3. Know the procedure of amputating the limb at the trans-tibial level	X	X	X	X	X							
4. Learn and identify the components of the trans-tibial prosthesis	X					X			X			
5. Identify the different types of trans-tibial sockets, Understand the biomechanics of trans-tibial PTB socket design	X						X	X			X	X
6. Recognize the different types of prosthetic suspension at the trans-tibial level, Differentiate between modular and crustacean systems in prosthetics	X						X	X			X	X
7. Discuss the differences between different types of prosthetic feet, Know some of the accessories of the trans-tibial prosthesis							X			X	X	
8. Ability to assess and manage between the numerous gait deviations and malalignments for the individuals with TTP.									X	X	X	X

**Program SLOs:**

1. Apply the knowledge in physical sciences, social sciences, health sciences, culture and natural sciences to prosthetics and orthotics professional-practice. [application of knowledge]
2. Communicate efficiently and professionally with patients and other healthcare staff. [communication skills]

3. Apply the skills of managing health practice (i.e. prosthetics and orthotics) in different environments and for different patients. [managing professional practices]
4. Adhere to social and professional responsibility and ethical behaviors in different environments and scenarios. [ethical behaviors]
5. Evaluate patients through conducting appropriate tests. [patient evaluation]
6. Create constructive ways to use the appropriate equipment, materials, components, and technologies in the building of prosthetics and orthotics devices. [efficiency in the use of materials].
7. Create, develop and implement treatment-plans appropriately for each patient according to the age and needs of the patient within a broad and continuous series of necessary health-care treatment-plans. [planning]
8. Transfer knowledge to users, caregivers, other health professionals, and the public (knowledge transfer)
9. Demonstrate appropriate competencies in research and evidence-based practice. [evidence-based practice]
10. Demonstrate basic research skills [conduct a research]
11. Apply professional team work skills [group work]
12. Engage in continues learning activities. [continuous learning]

## 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 1.2	<i>Amputation and prosthetics</i>		<i>FF</i>	<i>E-Learning</i>			
2	2.1 2.2	<i>Amputation surgery</i>		//	//			
3	3.1 3.2	<i>TT socket design and rectification</i>		//	//			
4	4.1 4.2	<i>Prosthetic suspension systems</i>		//	//			
5	5.1 5.2	<i>TT prosthetic feet</i>		//	//			
6	6.1 6.2	<i>Biomechanics of TT sockets</i>		//	//			
7	7.1	<i>Biomechanics of TT feet</i>						

	7.2							
8	8.1	<i>Mid-term exam</i>					<i>MCQs</i>	
9	9.1 9.2	<i>Presentation</i>		//	//		<i>The attached rubric</i>	
10	10.1 10.2	<i>Presentation</i>		//	//		<i>The attached rubric</i>	
11	11.1 11.2	<i>presentation</i>		//	//		<i>The attached rubric</i>	
12	12.1 12.2	<i>TT socket adjustment</i>		//	//			
13	13.1 13.2	<i>Delivery and family education</i>		//	//			
14	14.1 14.2	<i>TT prosthetic alignment</i>		//	//			
15	15.1 15.2	<i>Gait deviation and asymmetric</i>		//	//			
16	16.1	<i>Final exam</i>		//	//		<i>MCQs</i>	

## 22 Evaluation Methods:

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

<b>Evaluation Activity</b>	<b>Mark</b>	<b>Topic(s)</b>	<b>SLOs</b>	<b>Period (Week)</b>	<b>Platform</b>
Mid-term exam	30	1 - 5	All SLOs	8	Face to face
Presentation	20	TTP topics	All SLOs	9 - 11	Face to face
Final exam	50	All topics	All SLOs	16	Face to face

## 23 Course Requirements

(e.g: students should have a computer, internet connection, webcam, account on a specific software/platform...etc).

Individuals with lower limb amputations in the placement hospitals/centers

Hand tools

Prosthetic forms for assessment, measurements, casting, and delivery.

## 24 Course Policies:

A- Attendance policies:

- Students are expected to be on time.
- Repeated tardiness or leaving early will not be accepted.
- Students who miss class (or any portion of class) are responsible for the content. All classes will be recorded and uploaded on Microsoft Stream. It is the student's responsibility to review the material of classes they missed.
- Attendance will be taken on every class throughout the semester.
- Absence of more than 15% of all the number of classes, which is equivalent of (5) classes, 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 the module and mark of zero will be assigned according to the regulations of The University of Jordan.

B- Absences from exams and submitting 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).
- It is the student's responsibility to contact the instructor within 24 hours of the original exam time to schedule a make-up exam
- Makeup for the final exam may be arranged according to the regulations of The University of Jordan.

C- Health and safety procedures:

- Students will not be in direct contact with patients during this course.
- Modalities will be used in accordance with safety protocols

D- Honesty policy regarding cheating, plagiarism, 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, or another student work) will be considered plagiarism and the student/group will get a zero grade on that homework. 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 homework on their own. Asking other instructors at JU, 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 Deanship 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 instructor as soon as possible (email is acceptable) so the appropriate accommodations for this course can be made. Also, notify the staff of Services for Student with Disabilities (Deanship of Students Affairs) as soon as possible.
- The University of Jordan provides internet access for students who request such services. Please contact the Assistant Dean for Student Affairs for such requests.

### Practical session procedures

In each practical section, students are expected to watch the videos and interactive PowerPoint presentations for modalities prior to their attendance of the practical lab. Moreover, a practical session plan with tasks and case studies will be provided as preparation material and each student needs to hand it in at each practical session. All material will be uploaded on the E-learning and MS teams platforms in addition to YouTube for the videos.

### 25 References:

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


- May B. Amputations and prosthetics. Second edition. Philadelphia: Davis Company. 2002.
- Staff, Prosthetics & Orthotics. Lower-limb prosthetics. 1990 edition. New York: Prosthetic orthotic publications. 1990, 101 pp.
- Engstrom B and Van den ven C (eds). Therapy for amputees. Third edition. Edinburgh: Churchill livingstone. 1999.

Recommended books, materials, and media:

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### 26 Additional information:



Name of Course Coordinator: Dr. Huthaifa Atallah ---Signature:  Date: Oct 3, 2023
Head of Curriculum Committee/Department: ----- Signature: -----
Head of Department: Dr. Amneh Alshawabka ----- Signature: -----AS-----
Head of Curriculum Committee/Faculty: <b>Prof. Kamal Hadidi</b> Signature: KAH
Dean: <b>Prof. Kamal Hadidi</b> Signature: KAH