

Course Syllabus

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| 1 | Course title | Spinal orthoses | |
| 2 | Course number | 1833330 | |
| 3 | Credit hours | 2 | |
| | Contact hours (theory, practical) | 2,0 | |
| 4 | Prerequisites/corequisites | 1803250 + 1803184 | |
| 5 | Program title | Bsc in prosthetics and orthotics | |
| 6 | Program code | 1803 | |
| 7 | Awarding institution | The university of Jordan | |
| 8 | School | Rehabilitation sciences | |
| 9 | Department | Prosthetics and orthotics | |
| 10 | Course level | 3rd year | |
| 11 | Year of study and semester (s) | Third, one | |
| 12 | Other department (s) involved in teaching the course | No | |
| 13 | Main teaching language | English | |
| 14 | Delivery method | <input checked="" type="checkbox"/> Face to face learning <input type="checkbox"/> Blended <input type="checkbox"/> Fully online | |
| 15 | Online platforms(s) | <input type="checkbox"/> Moodle <input type="checkbox"/> Microsoft Teams <input type="checkbox"/> Skype <input type="checkbox"/> Zoom <input type="checkbox"/> Others..... | |
| 16 | Issuing/Revision Date | September 2023 | |

17 Course Coordinator:

Name: Dr. Bashar Al Qaroot

Contact hours: 12.00-13.00

Office number: 204

Phone number: 23121

Email: b.qaroot@ju.edu.jo



18 Other instructors:

Name:

Office number:

Phone number:

Email:

Contact hours:

Name:

Office number:

Phone number:

Email:

Contact hours:

19 Course Description:

This course covers the basic anatomy, physiology and biomechanics of the spine. In addition, this course covers, extensively, the different conditions (fractures, herniation, osteoporosis, loose of normal sagittal plane curvatures, etc) that may impose deformational changes on the normal alignment of the spine and thus destroy its integrity. Students will learn the biomechanical principles of applying spinal orthoses. In addition, the different strategies used to restrict the vertebral column mobility will be covered. Further, ways of correcting or/and preventing the deterioration on the vertebral column structure using a spinal orthosis will be enlightened. Students will learn how to work in a team to provide the best treatment for the patient. The interdisciplinary teamwork will also be the focus of this course.



20 Course aims and outcomes:

A- Aims:

At the end of the course the students should:

1. Develop an understanding about spinal orthoses biomechanics
2. Develop an understanding about vertebral column anatomy and biomechanics
3. Develop an understanding about the different types of spinal orthoses
4. Be equipped with a thorough understanding of a wide range of spinal orthoses, which are used during rehabilitation program and specifically for the treatment of spinal trauma and deformations

B- Students Learning Outcomes (SLOs):

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

| SLOs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|----|----|----|
| SLOs of the course | | | | | | | | | | | | |
| 1. Recognizing the normal anatomy and function of the spine | × | | | | | | | | | | | |
| 2. Identify the biomechanics of spinal stability and mobility | × | | | | | | | | | | | |
| 3. Recognize the different diseases and deformations that might affect the spine | × | | | | | | | | | | | |
| 4. Recognizing how diseases and deformations might affect spinal integrity from a | | | | | | | × | | | | | |

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| biomechanical point of view | | | | | | | | | | | | | |
| 5. Defining the best orthotic design, components, material, and type for a patient | × | | | | | × | | | | | | | |
| 6. Employ analytical skills in proper patient examination | | | | | × | | | | | | | | |
| 7. Defining the biomechanical principles in treating different spinal deformities and introducing modifications to the core principles if needed | × | | × | | | | | | | | | | |
| 8. Developing skills in casting, molding, and lamination. | | | × | | | | | | | | | | |
| 9. Learn how to recognize the size of the problem of a spinal condition | | | | | | | × | | | | | | |
| 10. learn how to deal with patient in a professional way | | × | | × | | | | | | | | | |
| 11. Dealing congenitally with patient data and personal information. | | | × | × | | | | × | | | | | |
| 12. Recognizing the importance of | | | | × | | | | | | | | | |

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| patient satisfaction. | | | | | | | | | | | | |
| 13. Delivering high quality health care | | | | | | | | | | | | |
| 14. Recognizing and work within the limits of their competence and ask for help when necessary | | | | × | | | | × | | | | |
| 15. Respecting the decisions and rights of patients | | × | | × | | | | | | | | |
| 16. Communicate with others within the medical team to improve treatment outcome | | × | | | | | | | | | × | |
| 17. Acquire self-critical appraisals skills | | | | × | | | × | | × | | | × |
| 18. Acquire the skills of decision making | | | | | | | × | | | | | |
| 19. Acquire the skills of identifying what constitute sufficient image quality for orthotic evaluation | × | | | | | | | | | | | |
| 20. Refer to the literature to identify the best orthotic intervention for each specific case. | | | | | | | × | | × | × | | × |

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 | Syllabus and Review of spinal anatomy | 1 | Face to Face | NA | | Exam | 1. Atlas of spinal orthoses 2. American academy atlas of orthoses and assistive devices |
| 2 | 2 | Biomechanics of the spine | 2-5 | Face to Face | NA | | Exam | Atlas of spinal orthoses |
| 3 | 3 | Introduction to Spinal orthoses and their types | 5,8 | Face to Face | NA | | Exam | American academy atlas of orthoses and assistive devices |
| 4 | 4 | Spinal orthoses biomechanical principles | 5,7,8 | Face to Face | NA | | Exam | Atlas of spinal orthoses |
| 5 | 5 | Cervical conditions, assessment and orthotic interventions | 6, 9-13 | Face to Face | NA | | Exam | American academy atlas of orthoses and assistive devices |
| 6 | 6 | Cervical conditions, assessment and orthotic interventions | 6, 14-20 | Face to Face | NA | | Exam | Atlas of spinal orthoses |
| 7 | 7 | Midterm exam | | | | | | |

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| 8 | 8 | LBP, assessment and orthotic interventions | 6, 9,11,14, 16,17,19,20 | Face to Face | NA | | Exam | Atlas of spinal orthoses |
| 9 | 9 | Thoraco-lumbar fractures, assessment and orthotic interventions | 6, 9,11,14, 16,17,19,20 | Face to Face | NA | | Exam | American academy atlas of orthoses and assistive devices |
| 10 | 10 | Spinal deformities, assessment and orthotic interventions | 6, 9,11,14, 16,17,19,20 | Face to Face | NA | | Exam | Atlas of spinal orthoses |
| 11 | 11 | Osteoporosis assessment and orthotic interventions | 6, 9,11,14, 16,17,19,20 | Face to Face | NA | | Exam | 3. Atlas of spinal orthoses American academy atlas of orthoses and assistive devices |
| 12 | 12 | Presentations | 17-20 | Face to Face | NA | | Assignment | |
| 13 | 13 | Presentations | 17-20 | Face to Face | NA | | Assignment | |
| 14 | 14 | Presentations | 17-20 | Face to Face | NA | | Assignment | |

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 |
|---------------------|------|----------|-------|---------------|----------|
| Midterm exam | 30 | 1-6 | 1-20 | 7 | |
| Assignment | 20 | 12-14 | 17-20 | 12-14 | |



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|------------|----|------|------|----|--|
| Final exam | 50 | 1-14 | 1-20 | 15 | |
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23 Course Requirements

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

24 Course Policies:

A- Attendance policies:

- Students are expected to be on time.
- Tardiness or leaving early will not be accepted.
- Students who miss class (or any portion of class) are responsible for the content. 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 to 2 lectures) requires that the student provides an official excuse to the instructor.
- 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 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.

25 References:

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

- Articles and teaching materials provided by lecturer through the e-learning website.
- Videos of practical content uploaded on Microsoft Stream, E-learning and YouTube.
- AAOS Atlas of Orthoses and Assistive Devices
- The atlas of spinal orthotics

B- Recommended books, materials, and media:

26 Additional information:

- This course is highly dependent on the e-learning website so make sure you have access to it and that you can download the materials and access the lectures.
- This course builds on the knowledge that you have obtained in the Physics, anatomy, fundamentals, orthopedic, pathology, gait analysis, diagnostics, and physiology courses, so make sure that you prepare and revise the necessary information.



- If you require any further information, make sure to e-mail the instructor and arrange for a meeting during the announced office hours.

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| Name of Course Coordinator: -Dr. Bashar Al Qarrot--Signature: -Bashar----- Date: ----- |
| Head of Curriculum Committee/Department: - Dr. Bashar Al Qarrot ---- Signature: ----- Bashar ----- ----- |
| Head of Department: Dr. Bashar Al Qarrot ---- Signature: ----- Bashar ----- |
| Head of Curriculum Committee/Faculty: ----- Signature: ----- - |
| Dean: ----- Signature: ----- |