

Subject	PROSTHETICS AND ORTHOTICS
Study Program	Three years professional studies for graduated physiotherapist
Code	SF-221
Study Year	Second
Semester	Fourth
Total number of classes	85
Credits	4.5
Type of subject	Obligatory
Preconditions	Fulfilled requirement to register for second year
Executed by	Chair of Physical Medicine and Rehabilitation
Responsible Teacher	Associate Professor Erieta Nikolij-Dimitrova, M.D., Ph.D.
Address	Institute of Physical Medicine and Rehabilitation, Elisie Popovski Str., No. 28, 1000 Skopje, tel. +389 2 3176 584 e-mail: enikolic@medf.ukim.edu.mk
Key words	Studies for physiotherapists, professional subjects, prosthetics, orthotics
Goals of study	<ul style="list-style-type: none"> <li>- to acquire with different types of orthoses, the way of routine application, indications and contraindications for the use of orthoses</li> <li>- to acquire with different types of prostheses for lower and upper extremities, indications and contraindications for application</li> <li>- to be trained to put on and to put off prostheses from stump, advise the patient to use and maintain the prostheses</li> <li>- to acquire with walking aids and their practical application</li> <li>- to acquire with the types of wheelchairs and their application</li> </ul>
Class descriptions (brief content)	<p><b>Theoretical instructions (30 lessons):</b></p> <ul style="list-style-type: none"> <li>✓ Historical development of orthopedic devices, their division, the principles of teamwork, interdisciplinary approach in the rehabilitation of the patients who need orthopedic devices</li> <li>✓ Prostheses. Definition, goals of the use of prostheses, types of prostheses</li> <li>✓ Lower limb prostheses</li> <li>✓ Upper limb prostheses</li> <li>✓ Orthoses. Definition, objectives and tasks of application of the orthoses, types of orthoses</li> <li>✓ Upper limb orthoses</li> <li>✓ Lower limb orthoses</li> <li>✓ Orthoses for spine</li> <li>✓ Corrective devices</li> <li>✓ Walking aids</li> <li>✓ Orthopedic shoes</li> <li>✓ Wheelchairs</li> <li>✓ Devices for activities of daily living, adaptations in the environment where the person with disabilities lives</li> <li>✓ Other devices</li> <li>✓ Biomechanics of walking with lower limb prosthesis, training of a</li> </ul>

	<p>patient to walk with lower limb prosthesis</p> <p><b>Practical instruction (15 lessons):</b></p> <ul style="list-style-type: none"> <li>- Training of physiotherapist for practical application of basic knowledge of prosthetics in rehabilitation of patients with amputation</li> <li>- Training of physiotherapist for use and application of orthoses in rehabilitation of patients</li> <li>- Training of physiotherapist for practical use of the walking aids in rehabilitation of sick and injured patients</li> <li>- Training of physiotherapist for use of a wheelchair in rehabilitation, as well as his further education of the patient to use the wheelchair in everyday life.</li> </ul> <p><b>Practice (40 classes):</b></p> <p>Practice is mandatory and is carried out in different departments for rehabilitation under guidance of a mentor-teacher and physiotherapist responsible for that department. The student is obliged to engage in all activities in the field of physiotherapy in the course of the full-time working hours and keep a log of its activities</p>								
Organization	<p>Theoretical instruction: 30 lessons</p> <p>Practical instruction: 15 lessons</p> <p>Practice (practical training): 40 classes</p>								
Methods of Learning	Lectures, practical lessons, practical training (practice)								
Expected study results	<p><b>Knowledge and understanding:</b></p> <p>The student will acquire knowledge of application and use of prosthesis, training a patient to walk with lower limb prosthesis.</p> <p>The student will acquire knowledge for application of orthoses in rehabilitation.</p> <p><b>Key skills:</b></p> <p>The student will be able to train the patients for application and use of prostheses and orthoses. The student will be able to train the patients to walk with aids for walking and use of wheelchair</p>								
	<p>The student is obligated to take part in all provided activities, including participation in continuous knowledge examinations in order to get a signature.</p> <p>Ranking of student's activities:</p> <table border="1"> <thead> <tr> <th>Type of activity</th><th>Points</th></tr> </thead> <tbody> <tr> <td>Theoretical instruction*</td><td>7.5 - 15</td></tr> <tr> <td>Practical instruction **</td><td>7.5 - 15</td></tr> <tr> <td>Practice***</td><td>.5 - 10</td></tr> </tbody> </table>	Type of activity	Points	Theoretical instruction*	7.5 - 15	Practical instruction **	7.5 - 15	Practice***	.5 - 10
Type of activity	Points								
Theoretical instruction*	7.5 - 15								
Practical instruction **	7.5 - 15								
Practice***	.5 - 10								

Specific recommendations for instruction	Continuous examination -I	25 - 40
	Practical examination	15-20
	Total:	60-100
	<p>* Presence at theoretical lessons:  51% - 60% - 7.5 points  61% - 70% - 9.5 points  71% - 80% - 12 points  81% - 90% - 13 points  91% - 100% - 15 points</p> <p>** Practical classes: every practical lesson brings 1 point (15 exercises)  presence – 0.5 points  activity at the practical lesson – 0.5 points</p> <p>*** Results of the practice  51% - 60% - 5 points  61% - 70% - 7 points  71% - 80% - 8 points  81% - 90% - 9 points  91% - 100% - 10 points</p> <p><b>Criteria as a condition:</b> The student is required to regularly attend theoretical and practical classes in order to approach the continuous check. Knowledge check is written. The practical part of the examination is carried out after completion of the practice and consists of checks in the practical knowledge and assessment of the log book, of the behavior and the engagement of the student. Grade for the entire examination is obtained according to the table of results, and based on the sum of the points achieved for all the activities, including the continuous checks and practical part of the examination. The student is obliged to achieve minimum points (60%) of the continuous checks and, on the contrary, he/she takes the complete final examination.</p> <p><b>Complete Final Examination:</b>  The examination is written and/or practical. It consists of the continuous checks and/or the practical part of the examination of which the student has failed to obtain minimum required points.</p>	
Teaching materials	Basic: Textbook: E.Nikolij Dimitrova, V. Labacevska, J.Argakieva-Nikolova, B. Mitrevska, L. Ivanovska, : Protetika i ortotika (Prosthetics and Orthotics), University “Ss Cyril and Methodius”, Skopje, 2011	