

Faculty	WWFIZ	Subject name	Strength and conditioning for sports performance (WF/I/st/50)	
Field of study	Physical education	Study year/term	3/6	
Number of hours	30	ECTS points	6	
Subject type*	obligatory	Language	English	
Study level**	full-time	Subject form***	classes	
Preliminary and additional requirements (e.g. previous subjects)	No requirements.			
Subject objective	The aim of this subject is to provide strength, power and flexibility training guidelines for physically active people.			
SUBJECT LEARNING OUTCOMES (COURSE LEARNING OUTCOMES) after completing this subject, the student will be able to:				
Knowledge	S_K01. Describe the benefits of a warm-up and identify factors that affect flexibility (K_W26/P6U_W/P6S_WG). S_K02. Understanding the general techniques involved in performing resistance training exercise and teach the basic strength exercises (K_W26/P6U_W/P6S_WG). S_K03. Identify the phases of the stretch-shortening cycle, identify the components of a plyometric training program and design a safe and effective plyometric training program (K_W26/P6U_W/P6S_WG).			
Skills	S_S01. Conduct a warm-up before strength and power training. Perform the cool-down exercises (K_U21/P6U_U/P6S_UW). S_S02. Perform basic resistance training exercise and provide recommendations for physically active people trying to optimize their muscular strength (K_U21/P6U_U/P6S_UW). S_S03. Show correct execution of lower- and upper-body plyometric exercises (K_U21/P6U_U/P6S_UW).			
Social competences	S_SC01. Develop and clarify the goals of a strength and conditioning program (K_K06/P6U_K/P6S_KK). S_SC02. Identify ways to reduce the risk of injury during a workout (K_K08/P6U_K/P6S_KO).			
Confirmation of achieved learning outcomes#	Continuous assessment, assesment of execution of the selected strength, power and flexibility exercises.			
Type of assessment mark##	Final assessment mark, support assessment mark.			
Content	Subject form (number of hours) ###	Subject learning outcomes	Course learning outcomes	
1. An introduction to the classes (learning outcomes, passing criteria, content).	classes (2)	S_SC01	K_K06	
2. The structure and function of general and specific warm-ups. Factors affecting flexibility. Frequency, duration and intensity of stretching.	classes (2)	S_K01, S_S01, S_SC01, S_SC02	K_W26, K_U21, K_K06, K_K08	
3. Types of stretching (static stretch, ballistic stretch, dynamic strretch, proprioceptive neuromuscular facilitation). Guidelines for stretching.	classes (2)	S_K01, S_S01	K_W26, K_U21	
4. A warm-up before strength and power training. A cool-down after strength and power training.	classes (2)	S_K01, S_S01	K_W26, K_U21	
5. Exercise technique fundamentals (movement range of motion and speed, breathing considerations).	classes (2)	S_K02, S_S02, S_SC01, S_SC02	K_W26, K_U21, K_K06, K_K08	
6. Physical testing and evaluation in strength training (squat 1RM, power clean, jerk).	classes (2)	S_K02, S_S02, S_SC01, S_SC02	K_W26, K_U21, K_K06, K_K08	
7. Strength exercise selection (core and assistance exercises, muscle balance, training equipment).	classes (2)	S_K02, S_S02, S_SC01, S_SC02	K_W26, K_U21, K_K06, K_K08	
8. Strength and power exercises - program design.	classes (2)	S_K02, S_S02, S_SC01, S_SC02	K_W26, K_U21, K_K06, K_K08	
9. Hypertrophy - program design.	classes (2)	S_K02, S_S02, S_SC01, S_SC02	K_W26, K_U21, K_K06, K_K08	
10. Muscular endurance and circuit training.	classes (2)	S_K02, S_S02, S_SC01, S_SC02	K_W26, K_U21, K_K06, K_K08	
11. Plyometric mechanics and physiology. Mechanical model of plyometric exercise. Stretch-shortening cycle.	classes (2)	S_K03, S_S03, S_SC01, S_SC02	K_W26, K_U21, K_K06, K_K08	
12. Plyometric program design (mode, lower-body plyometrics). Safety consideration.	classes (2)	S_K03, S_S03, S_SC01, S_SC02	K_W26, K_U21, K_K06, K_K08	
13. Plyometric program design (mode, upper-body plyometrics). Safety consideration.	classes (2)	S_K03, S_S03, S_SC01, S_SC02	K_W26, K_U21, K_K06, K_K08	
14. Plyometric exercise and resistance training. The resisted and assisted training methods. Landing surface and equipment.	classes (2)	S_K03, S_S03, S_SC01, S_SC02	K_W26, K_U21, K_K06, K_K08	
15. Final assesment (performance of practical task).	classes (2)	S_K01, S_S01, S_K02, S_S02, S_K03, S_S03, S_SC01, S_SC02	K_W26, K_U21, K_K06, K_K08	
Equipment	1. Projector 2. Bars, balls, Swiss balls, boxes, hurdles, jumping rope, hammers			
Passing criteria	Description and demonstration of strength, power and stretching exercises. The student should have minimum 80% attendance in the classes.			
Exemplary exam (test) tasks	Which of stretching techniques should be used before plyometric workout? Why? Perform power clean and jerk. Perform 3 upper-body plyometrics.			
Literature	1. Baechle, T. R., & Earle, R. W. (Eds.). (2008). Essentials of strength training and conditioning. Human Kinetics, Champaign, IL.			

*obligatory, optional

**full-time, part-time, e-learning

***lectures, classes, laboratory classes, projects, workshops, classes conducted by students

#-continuous assessment (current preparation for classes), mid-term written test, mid-term oral test, final written test, final oral test, written exam, oral exam, assessment of motor skills, B.A/M.A. thesis, project realisation, attendance

##-final assessment mark, support assessment mark

###-lectures, classes, laboratory classes, projects, workshops, classes conducted by students

2. Bishop, D. (2003). Warm up II. Sports Medicine, 33(7), 483-498.
3. Dietz, C., & Peterson, B. (2012). Triphasic training: A systematic approach to elite speed and explosive strength performance (Vol. 1). Bye Dietz Sport Enterprise.
4. Radcliffe, J., & Farentinos, R. (2015). High-Powered Plyometrics, 2E. Human Kinetics, Champaign, IL.
5. Zatsiorsky, V. M., & Kraemer, W. J. (2006). Science and practice of strength training. Human Kinetics, Champaign, IL.

ECTS points	
<i>Number of hours with teacher (e.g. classes, office hours)</i>	40
<i>Number of hours without teacher (e.g. homework)</i>	110
ECTS points in total	150/6
Teacher (e-mail)	dr hab. prof. AWF Hubert Makaruk (hubert.makaruk@awf-bp.edu.pl)