

UDC 796.011.3

## AUTHOR'S PROGRAM OF PHYSICAL TRAINING OF CADETS OF MILITARY ACADEMY IN THE PERIOD OF PRIMARY TRAINING USING THE MEANS OF CROSSFIT

Ivan Pylypchak<sup>1</sup>, Orest Loiko<sup>1</sup>

<sup>1</sup>Hetman Petro Sahaidachnyi National Army Academy, Lviv, Ukraine, devone@meta.ua

<https://doi.org/10.29038/2220-7481-2018-02-38-42>

### Abstracts

In the paper are considered the actual problems of improving of physical fitness of cadets of Military academy in the period of initial training. The authors explore the possibilities of increasing the efficiency of the training process by using the system of non-specialized high-intensity training of the CrossFit. Performed analysis of modern scientific and literary sources suggests that the training system of the CrossFit positively influences the level of physical fitness of the cadets. The purpose of the article is to develop a program of improving the physical fitness of cadets of Military academy in the period of initial training with the use of means of CrossFit. The structure of the experimental author's program contains purpose, tasks of program, means, stages and their tasks, forms of training. The methodological approach to the development of the program of physical training of cadets is proposed, which combines generally accepted means of development of physical qualities (70 % of the total time of the class) and means of CrossFit (30 % of the total time of the class). It is established that the system of physical training of cadets which has developed in the state is ineffective. The system doesn't provide readiness for action and practical readiness of cadets to professional activity and further service and demands constant improvement. The obtained data can be used in the development of typical programs of fitness training of cadets, in the teaching of the theory and methodology of physical education for cadets of specialized higher education institutions.

**Key words:** physical training, cadet, CrossFit, program.

**Іван Пилипчак, Орест Лойко. Авторська програма фізичної підготовки курсантів вищих військових навчальних закладів у період первинної підготовки з використанням засобів кросфіту.** У роботі розглянуто актуальні проблеми вдосконалення фізичної підготовленості курсантів вищих військових навчальних закладів у період первинної підготовки. Досліджено можливості підвищення ефективності тренувального процесу використанням системи неспеціалізованої високоінтенсивної підготовки кросфіт. Проведений аналіз сучасних наукових і літературних джерел дає підставу стверджувати, що система підготовки кросфіт позитивно впливає на рівень фізичної підготовленості курсантів, підсилює їх мотивацію до фізкультурно-спортивної діяльності, сприяє оволодінню знаннями сучасних підходів до організації фізичної підготовки, навичками й уміннями самостійного тренування та ведення здорового способу життя. *Мета статті* – розробити програму вдосконалення фізичної підготовленості курсантів вищих військових навчальних закладів у період первинної підготовки із застосуванням засобів кросфіту. Структура експериментальної авторської програми містить мету, завдання програми, засоби, етапи та їх завдання, форми проведення тренувань. Запропоновано методологічний підхід до розробки програми фізичної підготовки курсантів, що поєднує в собі загальноприйняті засоби розвитку фізичних якостей (70 % від загального часу навчального заняття) і засоби кросфіту (30 % від загального часу навчального заняття). Отримані дані можуть бути використані в розробці типових програм із фізичної підготовки курсантів, у викладанні теорії й методики фізичного виховання для курсантів спеціалізованих вищих навчальних закладів освіти, а також військовослужбовців Збройних сил України. Установлено, що система фізичного виховання курсантів, яка склалася в державі, є малоефективною. Вона не забезпечує бойової та прикладної готовності курсантів до професійної діяльності й подальшої служби та потребує постійного вдосконалення. У перспективі передбачено експериментальну перевірку ефективності розробленої програми.

**Ключові слова:** фізична підготовка, курсант, кросфіт, програма.

**Іван Пилипчак, Орест Лойко. Авторская программа физической подготовки курсантов высших военных учебных заведений в период начальной подготовки с использованием средств кроссфита.** В работе рассматриваются актуальные проблемы совершенствования физической подготовленности курсантов ВУЗа в период начальной подготовки. Исследуются возможности повышения эффективности тренировочного процесса путем использования системы неспециализированной высокоинтенсивной подготовки кроссфит. Проведенный анализ современных научных и литературных источников дает основание утверждать, что система подготовки кроссфит положительно влияет на уровень физической подготовленности курсантов, усиливает их мотивацию к физкультурно-спортивной деятельности, способствует овладению знаниями современных

подходов к организации физической подготовки, навыкам и умениям самостоятельной тренировки и ведения здорового образа жизни. **Цель статьи** – разработать программу совершенствования физической подготовленности курсантов ВУЗа в период начальной подготовки с применением средств кроссфиту. Структура экспериментальной авторской программы содержит цели, задачи программы, средства, этапы и их задачи, формы проведения тренировок. Предлагается методологический подход к разработке программы физической подготовки курсантов, сочетающий в себе общепринятые средства развития физических качеств (70 % от общего времени учебного занятия) и средства кроссфита (30 % от общего времени учебного занятия). Полученные данные могут быть использованы в разработке типовых программ по физической подготовке курсантов, в преподавании теории и методики физического воспитания для курсантов специализированных высших учебных заведений, а также военнослужащих Вооруженных сил Украины. Установлено, что система физического воспитания курсантов, которая сложилась в государстве, является малоэффективной. Она не обеспечивает боевую и прикладную готовность курсантов к профессиональной деятельности и дальнейшей службе и требует постоянного совершенствования. В перспективе предполагается экспериментальная проверка эффективности разработанной программы.

**Ключевые слова:** физическая подготовка, курсант, кроссфит, программа.

**Problem statement.** Training of cadets for military professional activity is carried out within a certain educational system. The modern higher education strategy is based on such a development line, that is grounded on the basis of personality oriented pedagogical technologies and allowsto form a specialist who will be able not only to reproduce the accumulated potential of knowledge, skills and abilities, but also to go beyond normative activity. This strategy characterizes the tendency of strengthening the role of «human factor» in all types of activities, including the military sphere [2; 4].

The distinctive features of higher military institutionscadets' military professional education are: constantly increasing amount of educational information in limited time periods; high nervous emotional pressure; overloading of the intellectual sphere; decreasing of motor activity [1; 9].

In recent years, the level of cadets' physical preparation at the initial-entry period has sharply decreased [3]. In our opinion, this problem is not enough examined by the scientists, likewise the ways of cadets' physical preparation improvement during the mentioned period are not considered. The achievement of a high level of physical preparationduring the initial-entry training is the basis for the development and formation of military applied skills and abilities, which are required for servicemen further service.

One of the most promising directions is to improve the system of cadets' physical education, as well as increasing the level of cadets' physical training and motor activity during the initial-entry period by means of CrossFit.

CrossFit exercises positively influence on theoverall improvement of motor abilities, harmonious physical development and health promotion. Life-long motor skills and abilities are formed during the course of studies. The special gained knowledge brings up moral and volitional qualities.

Examining scientific sources, which deal with CrossFitto solve the problems ofhigher military institutionscadets' physical education, it became clear that this issue has not yet been sufficiently discovered in the scientific literature.

**Recent research and publications analysis.** At present, numerous scientific researches were conducted, that were devoted to various problems of perfection of higher military institutionscadets' physical education. The following researches dealt with the peculiarities of the organization and methodology of physical education in the higher military institutions(Romanchuk S. V. 2013 [7], Roliuk O. V. 2017 [6], Shliamar I. L. 2015 [10]), increasing of physical preparation, hardening, development of cadets' physical qualities of higher military institutionsby means of weight-lifting sport (Prontnenko K. V. 2009 [5]).The above-mentioned scientific works consider, first of all, the question of physical education classes planning in the higher military institutions,the problems of physical trainingsystems and the competencies that depict the correspondence of cadets. At the same time, the works, which highlight up-to-datetechnologies to help to achieve these competencies, areinsufficient.

**The aim of the study** is to substantiate and develop the improving program for higher military institutionscadets' physical preparationduring the initial-entry training by means of CrossFit.

**The tasks of the study.** To develop theimproving program for higher military institutionscadets physical preparationduring the initial-entry training by means of CrossFit.

**The methods of the study:** scientific and methodological literatureanalysis, educational programs, pedagogical observation.

**The organization of the study.** Pedagogical observation was carried out on the basis of the National Army Academy during the 2016–2017 educationalyear. 43 cadets of the second year of study, specialty

«Management of the mechanized troops units actions», took part in the experiment. The age of participants was from 18 to 22 years, sports qualification – 30 % of participants had III grade and lower and all the others had no grade at all. All the participants agreed to participate in this experiment.

**Study results.** Higher military institutions cadets' physical training curricula are developed in accordance with educational qualification characteristics and educational professional programs for specialists' training. At the higher military institutions the ratio of time by type of training sessions to its total volume is determined by the department.

Physical training is organized and conducted in the form of training sessions, morning physical exercise, group sports activities and has a health-improving, educational and military-applied orientation.

An experimental program is developed on the basis of a commonly used program using CrossFit elements. CrossFit is a training technique and a competitive sport based on the combination of intense strength and functional exercises during one session. CrossFit classes include elements of interval training of high intensity, weightlifting, athletics, powerlifting, gymnastics, weight training and other kinds of sports, etc. [8]. This system allows the usage of wide physical activities, which increases the interest and effectiveness of the training process. The training methodology, unlike other types of fitness, can harmoniously affect all types of physical qualities.

The structure of the experimental author's program contains the purpose, tasks, means, levels and their tasks, forms of training. The program offers options for the physical qualities development (strength, coordination, speed), which can be independently selected by the teacher, based on the specific tasks of the training session. The advantage of the developed program is the recommendations list of exercises for the development of appropriate physical quality, that can be used during physical education classes.

The developed program of the pedagogical experiment is built on the application of CrossFit in the cadets' training process. The methodological principles of our cadets' physical education program are the division of the class into two parts. The first part of the training session (70% of the total time) the students performed the main tasks and during the second part (30% of the total time) of the class CrossFit was used for the development of strength, coordination, endurance and flexibility.

Four groups of exercises have been developed within the program. The first group of exercises are worked with their own weight. In the second group, exercises can be used as in the form of anaerobic (100–800 meters) and as aerobic (1500 meters or more) exercises, both independently and in the complex of exercises. The third and fourth exercises include exercises of weightlifting and athletics (table 1).

Table 1

**The Content of the Author's Program of Higher Military Institutions Cadets' Physical Training During the Period of Initial-Entry Training by Means of CrossFit**

Aim	Prepare cadets for unexpected diversified loads and overloads, which can be faced in the process of educational combat activities.
Tasks	To accelerate adaptation of cadets to the professional activities conditions.
	To increase the functional state of cadets.
	To form the essential physical development to fulfill the training and combat tasks during the initial period of training.
	To achieve the essential level of cadets' general physical preparation for the formation of applied physical preparation.
Means	Gymnastics (dips, pull-ups, handstand, triple jumps on the rope, ring dips, pull-ups on the rings, reverse burpee, raising the legs on the rings, squats on one leg, double-unders, lifting by force on the rings, push-ups in the handstand, lifting the legs to the crossbar, climbing the ladder, backflip, aerial squat, raising the knees to the chest, muscle-up, hand stand walk, lifting the body, box jump, lying pull-ups, push-ups on the floor, rope climb, burpee, support L-hold, lunges, jumps, static exercises) and others.
	Aerobics (swimming, cycling, rowing, running, ski racing, skiing).
	Atleticism (kettlebell swing, kettlebell jerk, kettlebell pull, jerk of dumbbells, reverse kettlebell row, exercises with medicine ball, kettlebell pull to a chin, bench press, kettlebell jerk (long cycle))
	Weightlifting (push, power push, cluster, seat press, barbell snatch, shoulder press, thrusters, back squat, overhead squat, dead lift, barbell jerk, clean)

End of the Table 1

Time	Studies –twice on 90 minutes.
	Group sports activities–twice on 50 minutes.
Program levels	<b>Initial Training Level</b>
	1. To check the initial level of cadets' physical preparation.
	2. To get acquainted with CrossFit exercises.
	3. To test the training methodology.
	4. To adapt the organism to the loads.
	<b>Individual Training Level</b>
	1. Execution of highly intensive complex (WOD) with own body weight.
	2. Going exercises with self-weight and lots of repetitions.
	<b>Group Training Level</b>
	1. Doing exercises within a crew.
2. Doing exercises within a squad.	
3. Doing exercises within a platoon.	
Organizational methods	Frontal, current, group, individual, competitive.
Result	General physical fitness, functional preparedness.

### Conclusions and perspectives of further researches.

1. The effectiveness of the methodological approach to the program development of higher military institutions cadets' physical training during the period of initial-entry training, which combines generally accepted means of physical qualities development (70% of the total time in the classroom) and means of CrossFit (30% of the total time in the classroom) has been experimentally proved.

2. Using CrossFit during training sessions allows to optimize and diversify physical training activities. In the future, it is planned to pilot-testing the effectiveness of the developed program.

3. The obtained data can be used in the development of typical cadets training programs, while teaching the theory and methodology of physical education for cadets of specialized higher education institutions, as well as servicemen of the Armed Forces of Ukraine.

In future of the further research it is expected to test the effectiveness of the developed program.

### References

1. Mazurchuk O. T., Ambroziak O. V. (2007). Suchasnij stan. Problemi ta perspektivi rozvitku sferi fizichnoyi kulturi i sportu na Volini [Current state. Problems and prospects of physical education and sports sphere development in Volyn]. *Molodizhnyj naukovijsnik. Fizichne vihovannya i sport / Volin. nac. un-t imeni Lesi Ukrayinki*, Lutsk, 23–27.
2. Maliar E. I., Lebid M. R. (2010). Pedagogichni umovi realizaciyi programi rozvitku profesijno vazhlyvih yakostej studentiv ekonomichnih specialnostej zasobami futbolu [Pedagogical conditions of realization of the development agenda of students of economic specialties professionally important qualities by means of football]. *Pedagogika, psihologiya ta mediko-biologichni problemi fizichnogo vihovannya i sportu*, no 4, 87–89.
3. Ovcharuk I. S., Sidorchenko K. M. (2010). Analiz fizichnogo stanu kursantiv 1-go kursu fakultetu Vijskovogo Institutu na pochatkovomu etapi navchannya [First-year cadets physical state analysis of the Military Institute department at the initial study period]. *Pedagogika, psihologiya ta mediko-biologichni problemi fizichnogo vihovannya i sportu*, no 11, 72–76.
4. Pylypei L. P. (2009). Profesijno-prikladna fizichna pidgotovka studentiv: [Professionally applied physical training of students]: monografiya. Sumy: DVNZ «UABS NBU», 312.
5. Prontenko K. V. (2009). Udoskonalennya fizichnoyi pidgotovlenosti kursantiv operatorskih specialnostej zasobami girovogo sportu na etapi pervinnogo navchannya: avtoref. dys. kand. nauk z fiz. vykhov. i sportu: 24.00.02 [Physical preparedness improvement of operator's specialties cadets by means of weight sports at the stage of initial education], Thesis abstract for Cand. Sc (Physical Education). Lviv, 22.
6. Roluk O. V. (2017). Udoskonalennya fizichnoyi pidgotovki vijskovosluzhbovciv-rozvidnikiv Zbrojnih Sil Ukrayini zasobami vijskovogo pentatlonu: dys. kand. nauk z fiz. vykhov. i sportu: 24.00.02 [Physical training improvement of intelligence officers of the Armed Forces of Ukraine by means of military pentathlon], Thesis abstract for Cand. Sc (Physical Education). Ivano-Frankivsk, 210.
7. Romanchuk S. V. (2013). Teoretiko-metodologichni zasadi fizichnoyi pidgotovki kursantiv vijskovih navchalnih zakladiv Suhoputnih vijsk Zbrojnih Sil Ukrayini: dys. dok. nauk z fiz. vykhov. i sportu: 24.00.01 [Theoretical

- methodological basis of thecadets physical training of military educational institutions of the Army Armed Forces of Ukraine], Thesis Doctor of Science in Physical education and sports. Lviv, 540.
8. Sidorchenko K. M. (2014). Aprobaciya sistemi «Krosfit» dlya rozvitku fizichnih yakostej kursantiv 1–3 kursiv fakultetu visoko mobilnih desantnih vijsk ta rozvidki ["CrossFit" system testing for the physical qualities development of 1–3 year of education of the highly mobile landing forces and intelligence faculty]: materialy naukovu-metodychnoyi konferenciyi «Fizychna pidgotovka osobovogo skladu Zbrojnyx Syl, inshyx vijskovyx formuvan ta pravooxonnyx organiv Ukrayiny: dosvid, suchasnist, problemy ta perspektyvy rozvytku» (Kyiv, 26–28 lystopada 2014 r.) / Min-vo oborony Ukrayiny. Nacionalnyj universytet oborony Ukrayiny imeni Ivana Chernyaxovskogo. K.: NU OU, Kyiv, 332–338.
  9. Shevchenko O. O. (2010). Udoskonalennya profesijnoyi pracezdatnosti vijskovih fahivciv protipovitryanoyi oboroni suhoputnih vijsk zasobami fizichnoyi pidgotovki: avtoref. dys. kand. nauk z fiz. vykhov. i sportu: 24.00.02 [Professional ability improvement of air defense military specialists of the Army by means of physical training], Thesis abstract for Cand. Sc (Physical Education). Lviv, 20.
  10. Shliamar I. L. (2015). Udoskonalennya specialnoyi fizichnoyi pidgotovki vijskovosluzhbovciv mehanizovanih pidrozdiliv suhoputnih vijsk Zbrojnih Sil Ukrayini: dys. kand. nauk z fiz. vykhov. i sportu: 24.00.02 [Special physical training improvement of mechanized elementservicemen of the Army of the Armed Forces of Ukraine], Thesis abstract for Cand. Sc (Physical Education). Lviv, 183.

Received: 28.04.2018.