

## TRAINING PROCESS PROGRAMMING OF QUALIFIED FOOTBALL PLAYERS IN HIGHER EDUCATION ESTABLISHMENTS

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### Abstract

**Relevance.** Modern trends in the athletes' training need to find new ways to improve the structure and content of different structural units of the training process. One of the most effective theoretical and methodological approaches in the athletes' training is programming. The **purpose** is to launch structural units program of the training process and, on this basis, to increase the efficiency of qualified football players training in the annual macrocycle in terms of higher educational establishments. **Results.** Research was conducted in student football team. Age of players is 18–23 years old. Sports qualification – candidate masters, athletes of the first category. The study had been conducting during two years. In the first year, a confirmatory experiment was conducted, in the second – forming. Structural units programs of qualified football players training process were launched and experimentally grounded. On the basis of the main competitions calendar, the replayed training cycle of qualified football players was planned. The program of each cycle of the annual macro cycle consists of four blocks: the duration of the preparation, competitive periods and the transition phase; quantitative indicators of trainings; the ratio of training work means and training loads of different orientations; criteria of athletes' preparation. **Conclusions:** it is established that the construction of the training process on the basis of structural units programming of the training process allows optimizing managerial influences at different stages of the annual macro cycles, depending on the three phases of the sports form of skillful football players.

**Key words:** footballers, training process, programming, macrocycle.

**Віктор Костюкевич, Вадим Стасюк. Програмування тренувального процесу кваліфікованих футболістів в умовах вищих навчальних закладів. Актуальність.** Сучасні тенденції підготовки спортсменів потребують пошуку нових способів удосконалення структури й змісту різних структурних утворень тренувального процесу. Одним із найбільш ефективних теоретико-методичних підходів у системі підготовки спортсменів є програмування. **Мета статті** – розробити програми структурних утворень тренувального процесу та на їх основі підвищити ефективність підготовки кваліфікованих футболістів у річному макроциклі в умовах вищих навчальних закладів. **Результати.** Дослідження проводили в студентській футбольній команді. Вік футболістів – 18–23 роки. Спортивна кваліфікація – кандидати в майстри спорту, спортсмени першого розряду. Дослідження проводили протягом двох років. На першому році проведено констатувальний експеримент, на другому – формувальний. Розроблено та експериментально обґрунтовано програми структурних утворень тренувального процесу кваліфікованих футболістів. На основі календаря основних змагань сплановано потроєний цикл підготовки кваліфікованих футболістів. Програма кожного циклу річного макроциклу складається з чотирьох блоків: тривалості підготовчого, змагального періодів і перехідного етапів, кількісних показників тренувальної роботи, співвідношення засобів тренувальної роботи й тренувальних навантажень різної спрямованості, критеріїв підготовленості спортсменів. **Висновки.** Установлено, що побудова тренувального процесу на основі програмування структурних утворень тренувального процесу дає змогу оптимізувати управлінські впливи на різних етапах річного макроциклу залежно від трьох фаз спортивної форми кваліфікованих футболістів.

**Ключові слова:** футболісти, тренувальний процес, програмування, макроцикл.

**Віктор Костюкевич, Вадим Стасюк. Программирование тренировочного процесса квалифицированных футболистов в условиях высших учебных заведений. Актуальность.** Современные тенденции подготовки спортсменов нуждаются в поиске новых путей по совершенствованию структуры и содержания различных структурных образований тренировочного процесса. Одним из самых эффективных теоретико-методических подходов в системе подготовки спортсменов является программирование. **Цель статьи** – разработать программы структурных образований тренировочного процесса и на их основе повысить эффективность подготовки квалифицированных футболистов в годовом макроцикле в условиях высших учебных заведений. **Результаты.** Исследование проводилось в студенческой футбольной команде. Возраст футболистов – 18–23 года. Спортивная квалификация – кандидаты в мастера спорта, спортсмены первого разряда. Исследование проводили в течение двух лет. На первом году проведен констатирующий эксперимент, на втором – формирующий. Разработаны и экспериментально обоснованы программы структурных образований тренировочного процесса квалифицированных футболистов. На основе календаря основных соревнований спланирован потроенный цикл подготовки квалифицированных футболистов. Программа каждого цикла годичного макроцикла состоит из четырех блоков: продолжительности подготовительного, соревновательного периодов и переходного этапа, количественных показателей тренировочной работы, соотношения средств тренировочной работы и тренировочных нагрузок различной направленности, критериев

подготовленности спортсменов. **Выводы.** Установлено, что построение тренировочного процесса на основе программирования структурных образований тренировочного процесса позволяет оптимизировать управленческие воздействия на различных этапах годичного макроцикла в зависимости от трех фаз спортивной формы квалифицированных футболистов.

**Ключевые слова:** футболисты, тренировочный процесс, программирование, макроцикл.

**Introduction.** In recent times, organization of the training process of athletes is mainly carried out on the basis of the theory of periodization [1; 5, 9; 11; 12–14; 21; 27].

Depending on the calendar system of competitions, the preparation of athletes in team sports takes place in one-cycle, in two and in three cycles models [4, 6, 9, 10, 18; 20]. It is worth noting that two and three-cycle models of the training process in the framework of the annual training cycle are specific for high-skillful football players. As a rule, in the leading football countries: England, Spain, Germany, Italy, France and others during the last 20 years at the competitions in high divisions, a two-cycle model is used [4; 16; 1; 19; 21]. The two-cycle model of the training process involves competitions under the autumn-spring scheme. In competitions during the spring-autumn stage of the annual training cycle, the preparation of football players is carried out within the limits of one-cycle model [4; 6; 11; 14; 18; 24]. Mostly under this model a training process is organized. This training process is for skillful football players who take part in competitions at the level of youth teams, city championships, and region championships. The subject of this study is an analysis of the training process programming of student football teams. That is, on the one hand, based on the calendar of competitions, it is necessary to determine, from the point of view of the periodization theory, the appropriate model of the training process organization of student football teams within the annual macro cycles, and, on the other, to substantiate the effectiveness of constructing structural units of the training process (lessons, microcycles, mesocycles, stages, periods) on the basis of programming.

Literary resources analysis [9; 10; 16; 18] allowed confirming the prediction that the problem of training process organized for qualified football players in higher education establishments is not sufficiently studied. One of the ways of its solution is the use of programming of structural units of the training process taking into account the main provisions of the theory of periodization [2; 3; 8; 15; 19; 21; 26].

**Connection of Research with Scientific Plans, Themes.** The research was carried out on the topic «Theoretical and methodological foundations of individualization in physical education and sports» (state registration number 0112U002001) according to the integrated plan of research work of the Ministry of Science, Youth and Sports of Ukraine for 2011–2015.

**The Purpose of the Research** is to develop programs of structural education of the training process and, on the basis of them, to increase the efficiency of training of qualified football players in the annual macro cycles in higher education institutions.

**Organization of Research.** The research was conducted at the student football team, which participated in the regional championship among the teams of the 1st group on football and mini-football, as well as in the competitions of the student football league of Ukraine. Age of players is 18–23 years old. Sports qualification – candidates master, athletes of the first category.

The study was conducted during two years. During the first year, the stated experiment was conducted, during the second year – forming.

**Research Methods.** In the process of research, the following methods were used: the analysis of scientific and methodological literature – the relevance of the research was determined, the directions of scientific research on this problem were analyzed by national and foreign scientists; Pedagogical observation – defined parameters of training work of qualified football players; Control tests – defined indicators of players' preparedness at different stages of the training cycle; Video shooting – an analysis of the competitive activities of teams and players; Modeling – developed models of programs of structural units of the training process; Methods of mathematical statistics. Descriptive statistics, sampling method, Shapiro-Wilka consistency criterion, Student's parametric criterion, and Mann-Whitney's nonparametric criterion were used. Mathematical processing of the results of the study was carried out using software packages MS Excel, Statistica 10.0.

**Results of the Research and Discussion.** The hypothesis of this study involved the experimental programming of the training process of qualified football players in conditions of higher educational establishments.

At the stage of the forming research experiment, programs of individual training tasks were developed, the structure of which consisted of general-preparatory, special-preparatory, subordinate (auxiliary) and competitive exercises. On the basis of programs of training tasks, programs of training sessions, which were included into the structure of training microcycles (fig. 1), were developed. The developed microcycle programs formed the basis for planning training work and competitive activities of skillful players at the stage of the forming experiment.

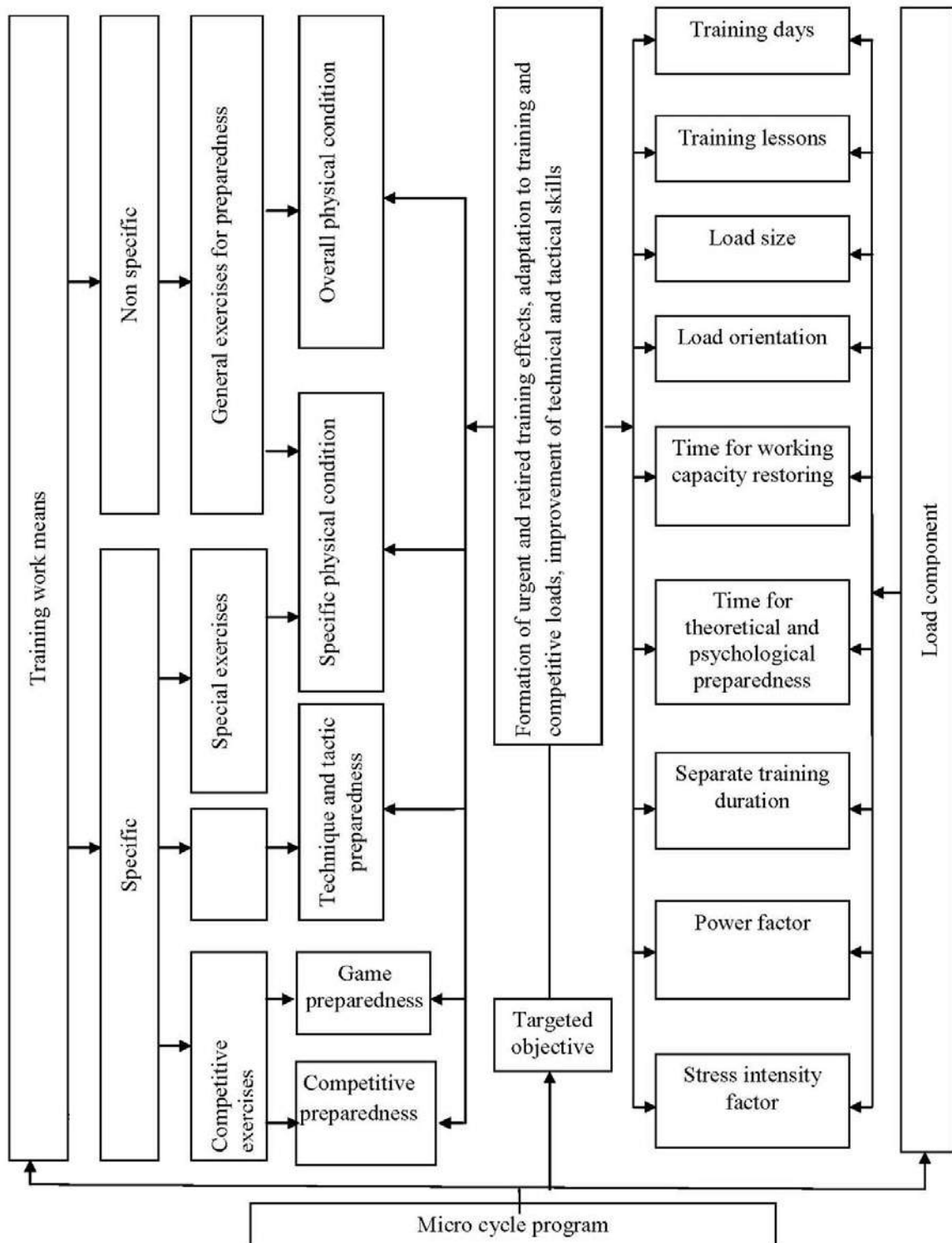


Fig. 1. Logical Chart of the Micro Cycle Program in the Training Process of Skillful Football Players

The main objectives for each microcycle were: the formation of urgent and retired training effects, adapting players to training and competitive loads, improving technical and tactical skills.

Microcycle programs have become the basis for developing programs for individual stages of training skillful football players in the annual training cycle.

On the basis of the calendar of competitions of the soccer team «Thunderbird (Burevisnyk)» of the

Kamyanyets-Podilsky Ivan Ohienko National University in the 2014–2015 campaign, the team's cycle of training was developed (fig. 2).

Cycle	I			II			III		
Months	03.08 – 31.08.14	01.09 – 12.11.14	13.11 – 21.11.14	22.11 – 08.12.14	09.12 – 15.03.15	16.03 – 22.03.15	23.03 – 07.04.15	08.04 – 19.07. 15	20.07 – 02.08. 2015
Periods	1-st preparator y	1-st preparator y	1-st preparator y stage	2-nd preparator y	2-nd competitiv e	2-nd preparator y stage	3-rd preparator y	3-rd competitiv e	3-rd transitiona l

Fig. 2. The Triple Cycle of Training of Skillful Players in the Annual Macro Cycles at the Stage of the Forming Experiment

The main goal of the first cycle was the preparation and participation of the team in the first round of the championship of the Khmelnytsky region and the student league of Ukraine in the first round of the championship (the duration of the first cycle was 108 days). In the process of the second cycle (123 days), the preparation and holding of games of the championship and the Cup of Khmelnytsky region on football was carried out.

The training process of the team during the third cycle (134 days) was aimed at preparing and participating in the second round of the championship of the Khmelnytsky region on football.

For each cycle of the team's annual training, a training program was developed (fig. 3). The program consists of four blocks. The first one presents the duration of the preparatory, competitive periods and the transition phase, the types and the correlation of the training of qualified football players. The second block contains quantitative indicators: training days, training sessions (nonspecific, specific and complex), games (educational, control and official). In the third block the correlation of means (general preparation, special-preparatory, competitive) and training loads (aerobic, mixed, anaerobic, alactatious, anaerobic glycolytic) in preparatory, competitive stages and transitional stage are presented. The fourth block is characterized by criteria of high-speed, speed-force training, as well as special and general endurance\* .

The content part of the program consisted of retractable, shock, submersible, competitive, intermixed and rebuilding microcycles. The structure of each microcycle consists of the types and components of the training work – the magnitude of the load, orientation, specific and non-specific exercises, the time allocated for restoration, theoretical and psychological training. In each microcycle, the coefficient of load size (CLS) and the intensity of the training load CI T.n. were determined. To determine the CLS of each training session or game and a certain type of microcycle, the methodical approach offered by V. N. Sorvanov (1978) was used. Exercise, performed with heart rate (heart rate) 114 beats for a minute<sup>-1</sup> was estimated at 1 point; 120 – 2 points; 126 – 3 points; 132 – 4 points; 138 – 5 points; 144 – 6 points; 150 – 7 points; 156 – 8 points; 162 – 10 points; 168 – 12 points; 174 – 14 points; 180 – 17 points; 186 – 21 points; 192 – 25 points; 198 – 33 points. Based on the estimation of the intensity of the exercise, the coefficient of load size was determined.

$$KBH = \sum_{i=1}^n t_i \cdot I_i, \tag{1}$$

where:  $t_i$  – duration of exercise (min);  $I_i$  – intensity of exercise (ball).

For the magnitude of the training effect in a training session (game) or microcycle, CIT.n. was determined.

$$KI_{m.n} = \frac{\sum_{i=1}^n t_i \cdot I_i}{\sum_{i=1}^n t_i}, \tag{2}$$

where:  $CIT.n.$  – Coefficient of intensity of training load;  $\sum_{i=1}^n t_i \cdot I_i$  –

Value of load in balls;  $\sum_{i=1}^n t_i$  – the duration of the training session.

\*Identical programs have been developed for the second and third cycle. The limited amount of an article does not allow them to be presented in the text.

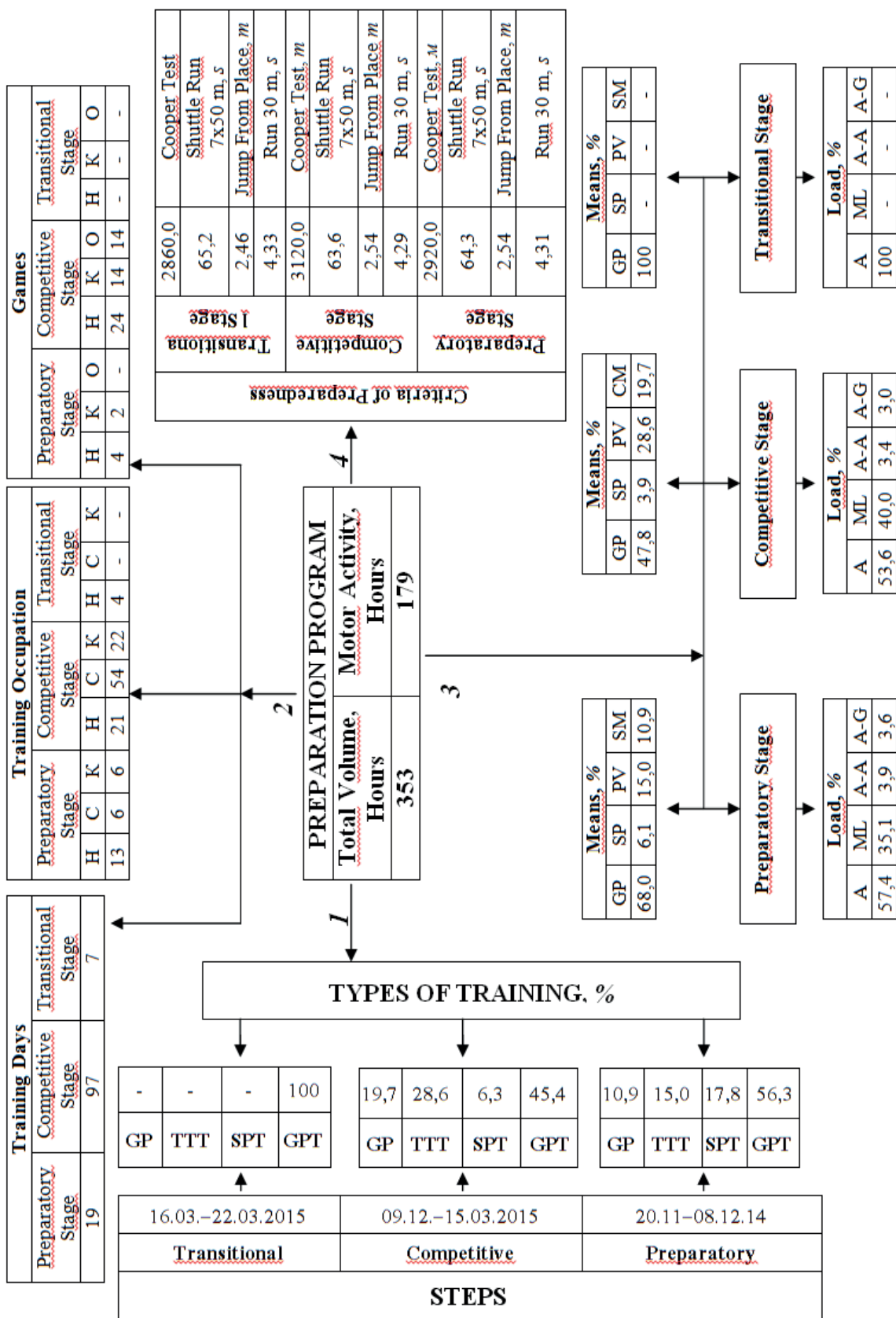


Fig. 3. The Program of Training of Qualified Football Players in the Second Cycle During the Training Year at the Stage of the Forming Experiment

Such an approach to the programming of structural units of the training process allowed planning not only the ratio of training loads of different orientations, but also the magnitude of training effects (fig. 4).

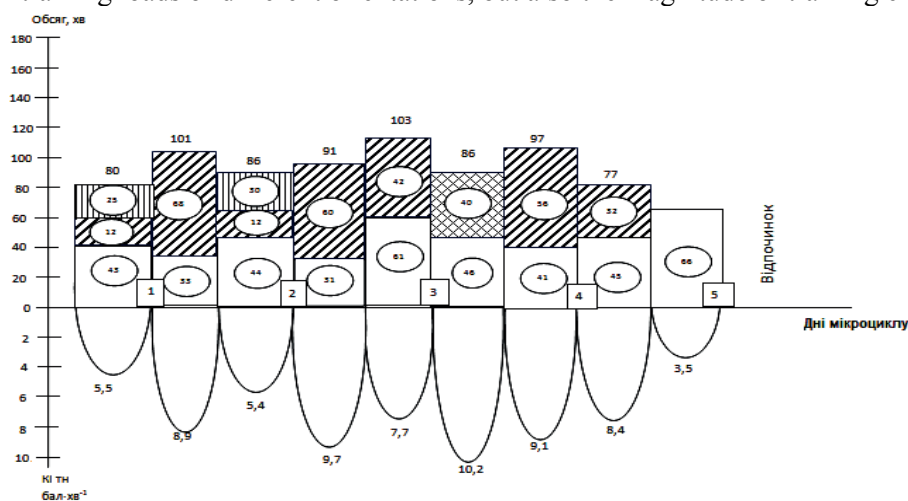


Fig. 4. The Volume, Intensity and Direction of Training of a 5-day Shock microcycle of the 1-st Cycle of Annual Training of Skillful Players at the Stage of the Forming Experiment

- aerobic loading;
- mixed loads;
- anaerobic-alcatate stresses;
- anaerobic-glycolytic stresses.

Programming of annual training, carried out on the basis of rational use of training equipment, loads of different orientation and types of training players allowed to optimize the training process and improve the effectiveness of managerial influences in the university football system.

As for the indicators of training work during the year, in general, the motor activity of the players of the student football team was 32 074 minutes (535 hours), of which 10 184 minutes (170 hours) were assigned to the 1-st cycle, 10 753 (179 hours) to the 2-nd Cycle and 11 137 mines (186 hours) – for the 3-rd cycle of annual training.

The amount of training facilities for skillful players in the annual training cycle at the stage of the forming experiment is presented in the tabl. 1.

During the year in the training process the ratio of nonspecific and specific exercises is approximately the same, 50,9 and 49,1 %. General training exercises were most used in the 2 nd cycle of annual training (53,3 %), specially – preparatory exercises – in the first cycle (5,6 %), subordinate (auxiliary) in the 2 nd cycle (25,1 %), Competitive – in the 1st cycle of annual training of skillful players.

Table 1

**The Amount of Training Facilities for Skillful Football Players in the Annual Training Cycle at the Stage of the Forming Experiment**

Training Year Cycle	Amount of Funds, min. (%)				Total min, (%)
	Nonspecific	Specific			
	General Preparatory	Special Preparatory	Auxiliaries	Competitive	
1-st cycle	4967 (46,7)	569 (5,6)	2494 (24,4)	2154 (23,3)	10184 (31,8)
2-nd cycle	5737 (53,3)	462 (4,3)	2694 (25,1)	1860 (17,3)	10753 (33,5)
3-rd cycle	5626 (50,5)	482 (4,3)	2705 (24,3)	2324 (20,9)	11137 (34,7)
In all	16330 (50,90)	1513 (4,8)	7893 (24,9)	6338 (19,4)	32074

A significant difference in the redistribution of training loads of different orientations between the 1st, 2nd and 3rd cycles of annual training is practically not established (table 2). Aerobic loads ranged from 52,4 (1st cycle) to 55,7 % (2nd cycle), mixed – from 37,9 (2nd cycle) to 39,7 % (3rd cycle), anaerobic alactatic – from 3,5 (2nd cycle) to 5,0 % (1st cycle), anaerobic glycolytic – from 2,6 (2nd cycle) to 2,9 % (1st cycle).

Table 2

**The Amount of Training Load of Skillful Football Players in the Annual Training Cycle at the Stage of the Forming Experiment**

Training Year Cycle	Amount of funds, <i>min</i> (%)				Total min, (%)
	Aerobic	Mixed	Anaerobic Alactatious	Anaerobic Glycolytic	
1-st cycle	5335(52,4)	4039(39,7)	506(5,0)	304(2,9)	10184(31,8)
2-nd cycle	5992(55,7)	4079(37,9)	372(3,5)	310(2,9)	10753(33,5)
3-rd cycle	5877(52,8)	4419(39,7)	541(4,9)	300(2,6)	11137(34,7)
In all	17204(53,6)	12537(39,1)	1419(4,4)	914(2,9)	32074

In general, for the annual training cycle, the proportion of aerobic loads was 53,6 %, mixed – 39,1 %, anaerobic alactatic – 4,4 % and anaerobic glycolytic – 2,9 %.

Regarding the distribution of different types of training of qualified football players within the training year (table 3), the total training was 60858 minutes (1014 hours), among which 17585 minutes (293 hours) were spent on theoretical and psychological training, 11 199 minutes (187 hours) was used to restore the sports performance of players.

Table 3

**The Volume of Different Types of Training of Skillful Players in the Annual Training Cycle at the Stage of the Formation Experiment**

Training Year Cycle	Types of Training, <i>min</i> (%)						Total min, (%). The Total Amount / Motor Activity
	General Physical Training	Special Physical Training	Technical and Tactical Training	Game Preparation	Theoretical and Psychological Preparation	Restoration	
1-st cycle	4406 (43,3)	1128 (11,1)	2496 (24,5)	2154 (21,1)	5805	3004	18993/10184 (31,8)
2-nd cycle	5286 (49,2)	913 (8,5)	2694 (25,1)	1860 (17,2)	5930	4520	21203/10753 (33,5)
3-rd cycle	4911 (44,1)	1196 (10,7)	2706 (24,3)	2324 (20,9)	5850	3675	20662/11137 (44,7)
In all	14603(45,5)	3237 (10,1)	7896 (24,6)	6338 (19,8)	17585	11199	60858/32074

Means of direct motor activity of qualified players were divided into GPT(45,5 %), SPT (10,1 %), TTT (24,6 %) and GP (19,8 %). It should be noted that approximately the same trend is observed during each of the three cycles of annual training.

Thus, microcycle program, the structure and content of which took into account the types and components of training work were developed and implemented in the training process of qualified footballers, they have allowed increasing the effectiveness of the training process of football teams in higher education institutions.

**Conclusions.** At the present stage the construction of the training process of qualified athletes within the year is carried out mainly on the basis of the theory of periodization of sports training. Athletes of team playing sports including football are characterized as one cycle, two-and three-cycle schemes for training process organization in the annual macro cycles.

It is established that programming is one of the best ways to increase the effectiveness of the training process of skillful football players. Programming of the training process of qualified football players should be done taking into account the main provisions of the theory of periodization.

Programming of the training process of athletes should be determined by: a hierarchical structure in which smaller structures are subordinate to larger, for example, microcycles to mesocycles or stages; target units according to each stage of the annual training cycle; algorithmicity – step by step planning and correction of managerial influences.

Further research will be aimed at programming the training process of players of different qualifications.

#### *Sources and Literature*

1. Бондарчук А. П. Периодизация спортивной тренировки. Киев: Олимп. лит., 2005. 304 с.
2. Верхошанский Ю. В. Программирование и организация тренировочного процесса. Москва: Физкультура и спорт, 1985. 176 с.
3. Букуев М. А. Методика этапного программирования тренировочных нагрузок высококвалифицированных футболистов в годичном цикле: автореф. дис... д-ра пед. наук. Москва, 2001. 50 с.
4. Годик М. А. Физическая подготовка футболистов. Москва: Терра-Спорт, Олимпия Пресс, 2006. 272 с.
5. Иссурин В. Б. Блоковая периодизация спортивной тренировки. Москва: Сов. спорт, 2010. 288 с.
6. Костюкевич В. М. Модельно-целевой подход при построении тренировочного процесса спортсменов командных игровых видов спорта в годичном макроцикле. *Наука в олимпийском спорте*. 2014. № 4. С. 22–28.
7. Костюкевич В. М., Щепотина Н. Ю. Модельные тренировочные задания как инструмент построения тренировочного процесса спортсменов командных игровых видов спорта. *Наука в олимпийском спорте*. 2016. № 2. С. 24–31.
8. Костюкевич Віктор, Стасюк Вадим. Програмування тренувального процесу кваліфікованих футболістів у річному макроциклі. *Фізична культура, спорт та здоров'я нації: збірник наукових праць*. Вип. 1 (20). Вінниця: Планер, 2016. С. 323–331.
9. Максименко И. Г. Планирование и контроль тренировочного процесса в спортивных играх. Луганск: Знание, 2000. 276 с.
10. Николаенко В. В. Рациональная система многолетней подготовки футболистов к достижению высшего спортивного мастерства: монография. Киев: [б. и.], 2014. 336 с.
11. Матвеев Л. П. Общая теория спорта и её прикладные аспекты: учеб. для вузов физ. культуры. [5-е изд.]. Москва: Сов. спорт, 2010. 340 с.
12. Платонов В. Н. Теория периодизация подготовки спортсменов в течении года: предпосылки, формирование критика. *Наука в олимпийском спорте*. 2008. № 1. С. 3–23.
13. Платонов В. Н. Периодизация спортивной тренировки. Общая теория и ее практическое применение. Киев: Олимп. лит., 2013. 624 с.
14. Платонов В. Н. Система подготовки спортсменов в олимпийском спорте. Общая теория ее практические приложения: учебник [для тренеров]: в 2 кн. Киев: Олимп. лит., 2015. Кн. 1. 680 с.
15. Родриго А. Роберто. Программа тренировок. Киев: Федерация футбола Украины, 2010. 51 с.
16. Тюленьков С. Ю. Теоретико-методические подходы к системе управления подготовкой футболистов высокой квалификации: монография. Москва: Физическая культура, 2007. 352 с.
17. Чернов С. В. Инновационные технологии подготовки профессиональных спортсменов и команд игровых видов спорта: автореф. дис. ... д-ра пед. наук. Москва, 2006. 46 с.
18. Шамардин В. М. Технологія управління системою багаторічної підготовки футбольних команд вищої кваліфікації: автореф. дис. ... д-ра наук з фіз. виховання і спорту: спец. 24.00.01 «Олімпійський і професійний спорт». Львів, 2013. 36 с.
19. Benk G. Football training program. New York. 1991. 226 p.
20. Bompa T. O. Periodization training for sport. Toronto: Sport books publisher, 2006. 22 p.
21. Issurin V. B. Block peiodization: breakthrough in sports training/ed M. Yessis. Michigan: Utimate athlete concepts, 2008. 213 p.
22. Godik M. A., Popov A. V. Lapreparation del futbolista. Barccelona, 1992. 397 p.
23. Johnson I. A., Haskvitz E. M., Brehni B. Applied sports medicine for coaches. Baltimor: Wolters Kluwer/Lippicott Williams and Wikins, 2009. P. 370.
24. Kostyukevych V. M. The construction of the training process higlyskilled athletes in soccer and field hockey in the annual cycle of training. *Pedagogics, psychology, medical-biological problems, of physical training and sports*. 2013. Vol. 8. P. 51–55.
25. Mujika I. Tapering and peaking for optimal performance. Champaign, IL: Human Kinetics, 2009. 209 p.
26. Platonov V. N., Bulatova M. M. Preparacco Fisical. Rio de Janerio: Sprint, 2003. 338 p.



27. Thomas L. A., Busso T. Theoretical study of taper characteristics to optimize performance. *Med. Sci. Sports Exerc.* 2005. Vol. 37. P. 1615–1621.

### References

1. Bondarchuk, A. P. (2005). Periodizatsiia sportivnoi trenirovki [Periodization of sports training]. Kyev, Olimpiiskaia literatura, 304.
2. Verkhoshanskii, Yu. V. (1985). Prohrammirovaniie i orhanizatsiia trenirovochnoho protsessa [Programming and organization of the training process]. Moscow, *Fizkultura i sport*, 176.
3. Bukuev, M. A. (2001). Metodika etapnoho prohrammirovaniia trenirovochnykh nahruzok vysokokvalifitsirovannykh futbolistov v hodichnom tsikle [Method of step-by-step programming of training loads of highly skillful football players in the year cycle: author's abstract]. Dis ... Doctor of Pedagogical Sciences, Moscow, 50.
4. Hodik, M. A. (2006). Fizicheskaia podgotovka futbolistov [Physical training of football players]. Moscow, Terra-Sport, Olympiia Press, 272.
5. Issurin, V. B. (2010). Blokovaia periodizatsiia sportivnoi trenirovki [Blocks periodization of sports training]. Moscow, Sovetskii sport, 288.
6. Kostiukevych, V. M. (2014). Modelno-tselevoi podkhod pri postroenii trenirovochnoho protsessa sportsmenov komandnykh ihrovykh vidov sporta v hodichnom makrotsikle [Model-target approach in the construction of the training process of athletes of team playing sports in a one-year macro cycle]. *Nauka v olimpiiskom sporte*, no. 4, 22–28.
7. Kostiukevych, V. M. & Shchepotina, N. Y. (2016). Modelnye trenirovochnye zadaniia kak instrument postroeniia trenirovochnoho protsessa sportsmenov komandnykh ihrovykh vidov sporta [Model training tasks as an instrument for constructing a training process for athletes of team playing sports]. *Nauka v olimpiiskom sporte*, no. 2, 24–31.
8. Kostiukevych, V. & Stasiuk, V. (2016). Prohramuvanniia trenirovochnoho protsesu kvalifikovanykh futbolistiv u richnomu makrotsykli [Programming of the training process of skillful football players in the annual macro cycles]. *Fizychna kultura, sport ta zdorovia natsii, zbirnyk naukovykh prats*, vyp. 1 (20), Vinnitsa, Planer, 323–331.
9. Maksimenko, I. G. (2000). Planirovaniie i kontrol trenirovochnoho protsessa v sportivnykh ihrakh [Planning and control of the training process in sports games]. Lugansk, *Znanie*, 276.
10. Nikolaenko, V. V. (2014). Ratsionalnaia sistema mnoholetnei podgotovki futbolistov k dostizheniiu vyssheho sportivnoho masterstva [Rational system of long-term training of football players for the achievement of the highest sporting skills]. Kiev, 336.
11. Matveev, L. P. (2010). Obshchaia teoriia sporta i eio prikladnye aspekty: ucheb. dlia vuzov fiz. kultury [General theory of sport and its applied aspects: study. For high school physical Culture]. [5th ed.]. Moscow, Sovetskyi spor, 340.
12. Platonov, V. N. (2008). Teoriia periodizatsiia podgotovki sportsmenov v techenii hoda: predposylki, formirovaniie kritiki [Theory Periodization of training of athletes during the year: preconditions, formation of criticism]. *Nauka v olimpiiskom sporte*, no. 1, 3–23.
13. Platonov, V. N. (2013). Periodizatsiia sportivnoi trenirovki. Obshchaia teoriia i ee prakticheskoe primenenie [Periodization of sports training. General theory and its practical application]. Kiev, Olimpiiskaia literatura, 624 p.
14. Platonov, V. N. (2015). Sistema podgotovki sportsmenov v olimpiiskom sporte. Obshchaia teoriia ee prakticheskie prilozheniia: uchebnik [dlia trenerov] [The system of preparation of athletes in the Olympic sport. General theory of its practical applications: a textbook [for trainers]: in 2 books]. Kiev, Olimpiiskaia literatura, 680.
15. Rodrigo, A. Roberto (2010). Prohramma trenirovok [Training program]. Kiev, Federatsiia futbola Ukrainy, 51.
16. Tiulenkov, S. Yu. (2007). Teoretiko-metodicheskie podkhody k sisteme upravleniia podgotovkoi futbolistov vysokoi kvalifikatsii: monografiia [Theoretical and methodical approaches to the system of training of football players of high qualification: monograph]. Moscow, Fizicheskaia kultura, 352.
17. Chernov, S. V. (2006). Innovatsionnye tekhnologii podgotovki professionalnykh sportsmenov i komand ihrovykh vidov sporta : avtoref. dissertatsii doktora pedagogicheskikh nauk [Innovative technologies of training of professional athletes and teams of game types of sports: author's abstract. Dissertations of the doctor of pedagogical sciences]. Moscow, 46.
18. Shamardin, V. M. (2013). Tekhnologhiia upravlinnia systemoiu bahatorichnoi pidgotovky futbolnykh komand vyshchoi kvalifikatsii: avtoref. dys. ... doktora nauk z fiz. vykhovanniia i sportu: spets. 24.00.01 «Olimpiiskyi i profesiynyi sport» [Technology of management of the system of long-term preparation of football teams of the highest qualification: author's abstract. Dis. ... Doctor of Science in Phys. Education and sports: special 24.00.01 «Olympic and professional sports»]. Lviv, 36.
19. Benk, G. (1991). Football training program. New York, 226.

20. Bompa, T. O. (2006). *Periodization training for sport*. Toronto, Sport books publisher, 22.
21. Issurin, V. B. (2008). *Block peiodization: breakthrough in sports training*. Michigan, Utimate athlete concepts, 213 p.
22. Godik, M. A. & Popov, A. V. (1992). *Lapreparation del futbolista*. Barccelona, 397.
23. Johnson, I. A., Haskvitz, E. M. & Brehni, B. (2009). *Applied sports medicine for coaches*. Baltimor, Wolters Kluwer. Lippicott Williams and Wikins, 370.
24. Kostiukevych, V. M. (2013). The contruction of the training process higlyskillful athletes in soccer and field hockey in the annual cycle of training. *Pedagogics, psychology, medical-biological problems, of physical training and sports*, vol. 8, 51–55.
25. Mujika, I. (2009). *Tapering and peaking for optimal performance*. Champaign, IL, Human Kinetics, 209.
26. Platonov, V. N. & Bulatova, M. M. (2003). *Preparacco Fisical*. Rio de Janerio, Sprint, 338.
27. Thomas, L. A. & Busso, T. (2005). *Theoretical study of taper characteristics to optimize performance*. *Med. Sci. Sports Exerc.*, vol. 37, 1615 – 1621.

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