

# Individual program of running activity of track-and-field athletes during training sessions to improve sports skills in the preparation for a cross season

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**Purpose:** to develop an individual program of running work of athletes, specializing in running for long distances, during the preparation for the autumn-winter cross season.

**Material & Methods:** study was conducted in the group of improving sports skill in athletics of the faculty of physical education of the Pedagogical University. It was attended by 4 athletes, specializing in running for long distances at the age of 19–20 years.

**Results:** the individual program of running work of a track and field athlete on the basis of a system of mesocycles and micro-cycles is presented. The structure and content of running work in each mesocycle is disclosed. Trends in the growth of running loads in mesocycles are determined.

**Conclusion:** proved the effectiveness of the introduction of this program in the training process of training athletes for the cross season on the basis of improving the result of the competitive exercise and improving athletic qualifications for track and field cross.

**Keywords:** running for long distances, cross, running load, program, training.

## Introduction

Problem of rational construction of the training process for long distance runners at all stages of athletic training is quite complex, as it should ensure the directional development and high degree of readiness of athletes to the planned results. The questions of planning the training process of athletes specializing in cyclic athletics at the various stages of long-term training are currently being studied by specialists in the field of physical education and sports (F. P. Suslov, 1995; B. N. Yushko, 1995; V. N. Platonov, 2004, 2008; A. Bondarchuk, 2007; T. V. Samolenko 2011, 2012; V. Borzov, 2014; S. I. Karaulova, M. B. Sinyugin, 2016 and others).

According to the results of research by scientists V. I. Bobrovik, A. V. Krivoruchenko, A. K. Kozlova [1], it is proved that the construction of a training process for qualified athletes specializing in short, medium, long distances and hurdling must be carried out on the basis of the system-structural method of planning summer preparation.

Specialists D. V. Pyatnichuk and G. A. Pyatnichuk [11] proposed a typical program of training runners for medium and long distances in the conditions of the plain. The structure and duration of the preparatory period of the annual cycle of training of runners are revealed. T. V. Samolenko [13] developed and introduced in practice training microcycles in the autumn-winter preparatory period of high-qualified runners for medium distances. N. F. Petrenko [8] gives recommendations on the best cross-country loads weekly microcycle qualified runners-stayers. T. V. Malenyuk [6] developed a program for the summer cycle of training young athletes, specializing in running for medium distances.

In the opinion of V. M. Platonov [9], the modern construction of the training process should be carried out on the basis of taking into account the objective indicators of physical, technical and functional preparedness, individualization of the training process, the rational correlation of training aids of different preferential orientation, typological features of the nervous system and temperament.

In the scientific and educational work of specialists [2, 5, 9; 15] it is noted that at the stage of specialized basic training the individual characteristics of athletes are clearly manifested, this factor allows for a differentiated approach to the choice of means, their volume and intensity, forms and methods of training influence. At this stage it is advisable to create homogeneous groups in the departments and for each of them to develop appropriate training programs.

Thus, A. Orel [7] analyzed the structure and content of runners' training for long distances in the mesocycle induction training for the cross season. After all, runners for long distances at the end of the summer competition period quite often take part in competitions in track and field cross. This factor determined the choice of the topic of our study.

Analysis of modern publications showed single studies on planning the training process of runners for long distances during the preparation for the cross season at the stage of specialized basic training in the conditions of training in higher education, which determined the relevance of this work.

**Relationship of research with scientific programs, plans, themes.** This work was carried out in accordance with the plan of the research work of the Department of Theory and Methods of Olympic and Professional Sports of the

Central State Pedagogical University named after Vladimir Vinnichenko (Kropivnitsky).

**The purpose of the research:** to develop an individual program of running work of athletes, specializing in running for long distances, during the preparation for the autumn-winter cross season.

*Objectives of the study:*

1. To study the structure and tasks of the preparatory period for the first macrocycle of summer training for female students specializing in running for long and cross distances.
2. Develop and implement in the training process an individual program of running work for athletes in preparation for the cross season.
3. Determine the effectiveness of the individual program of running work of track-and-field athletes in preparation for the athletics cross season.

## Material and Methods of the research

The pedagogical experiment was organized at the Physical Education Department of the Central State Pedagogical University named after Vladimir Vinnichenko during the 2016–2017 school years. In the study, athletes of not high qualification (I category, KMS) aged 19–20 years, specializing in running for long and cross courses, members of the regional team in track and field athletics, in the number of 4 persons participated.

During the research, the following methods were used: analysis of literary sources, pedagogical experiment, pedagogical testing.

## Results of the research and their discussion

The construction of a one-year cycle of training athletes, specializing in running for long distances, is carried out within the framework of two relatively independent macrocycles. The first – autumn-winter macrocycle – is aimed at training athletes for the championship of Ukraine in track and field cross-country (Belaya Tserkov, in 2016), and the second – spring-summer – for the Ukrainian Track and Field Championships, in particular, for running for long distance (Kropivnicki, 2017).

In the structure of each macrocycle, preparatory, competitive and transitional periods are distinguished, which are represented by the corresponding mesocycles.

*Preparatory period* of the autumn-winter macrocycle lasted for 3 months (from July to October) and was aimed at the solution of the following tasks: the formation of a functional “base”, raising the level of general and special physical readiness, improving technical and tactical skills, special efficiency

and mental stability the increasing value of the running load. The structure of the preparatory period for the first macrocycle of training athletes, specializing in running for long and cross distances, are presented in Table 1.

Stage of general preparation is presented to the retracting of mesocycles. The main task of the stage is to create the prerequisites for the entry of the sports form due to a gradual increase in the volume of the training load.

Stage of special preparation is presented by the basic developing and basic stabilizing mesocycles. The main task of the stage is to increase the level of fitness for athletes; development of special endurance; Improvement of competitive technique and formation of tactical skills.

Pre-competition stage is represented by the control-preparatory mesocycles. The main task of the stage is the completion of the formation of the sports form. Sports’ training acquires a pronounced special focus.

In this scientific work there is presented an individual program of running athletes (sports qualification – I level with cross-run, and runway for long distances – 3000 m) in preparation for the autumn-winter cross-country season. This program is represented by a system of mesocycles and microcycles of the training process of runners for long distances.

The retracting mesocycle was planned for late July and early August 2016 and is aimed at cross training. The volume and intensity of the load is planned taking into account the individual indicators of the special physical preparedness of athletes, the functional capabilities of his body, the experience of training and competitive activities.

The key task of this mesocycle was to overcome the crossing distance of 125 km with an intensity of no more than 4.30 min·km<sup>-1</sup>. Scheduled running load athlete performed during the summer holidays and in the diary fixed the time to overcome the distance. This allowed obtaining experimental data on the performance of the volume of the running load, compliance with the intensity and duration of its implementation. Table 2 shows the structure and content of running work in the retracting mesocycle.

The retracting mesocycle consisted of five one-week microcycles: three retracting and two impacts. Running work was represented by cross-country running, there was a “retraction” of the body in a large volume of work with stable rates of intensity of its implementation. There was an increase in the volume of running work from 2000 to 6000 m. The volume of the running load within the microcycles increased from 18 to 36 km. The total volume of the running load was 125 km, and the intensity of the running load corresponded to the task (4.30 min·km<sup>-1</sup>).

*Basic developing mesocycle* consisted of four one-week mi-

**Table 1**  
Structure of the preparatory period of sports training of runners for long and cross distances

Period	Preparatory		
Stages	General training	Special training	Pre-competition training
Mesocycles	Retractor	Basic developing	Basic stabilizing
			Control and preparation

**Table 2**

**Structure and content of running work in the retracting mesocycle**

Retracting mesocycle						
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
<b>Retracting microcycle</b>						
2000 m – 8 min 58 s	3000 m – 13 min 30 s	4000 m – 17 min 45 s	3000 m – 13 min 10 s	2000 m – 8 min 58 s	4000 m – 17 min 45 s	Day-off
<b>Retracting microcycle</b>						
4000 m – 17 min 44 s	2000 m – 8 min 57 s	4000 m – 17 min 47 s	4000 m – 17 min 44 s	5000 m – 22 min 28 s	4000 m – 17 min 42 s	4000 m – 18 min
<b>Retracting microcycle</b>						
4000 m – 17 min 48 s	4000 m – 17 min 44 s	5000 m – 22 min 41 s	5000 m – 22 min 39 s	5000 m – 22 min 28 s	Day-off	5000 m – 22 min 30 s
<b>Impact microcycle</b>						
5000 m – 22 min 29 s	5000 m – 22 min 31 s	4000 m – 17 min 45 s	5000 m – 23 min	6000 m – 29 min	6000 m – 29 min	5000 m – 22 min 31 s
<b>Impact microcycle</b>						
4000 m – 17 min 40 s	4000 m – 17 min 42 s	5000 m – 22 min 41 s	5000 m – 22 min 39 s	6000 m – 29 min 15 s	6000 m – 9 min 20 s	6000 m – 29 min

crocycles: two retracting and two impacts. Within each microcycle, a cross-country run was widely used in combination with a smooth running interval method on segments from 100 to 1000 m.

So, running work on Tuesday, Thursday and Saturday was aimed at cross training lasting from 15 to 30 min and intensity of 80–85% of the maximum personal result of the athlete. This work contributed to the development of general and special endurance, aerobic and aerobic-anaerobic capabilities, and strong-willed qualities. Running work on the remaining days of the week was performed by an interval method, the duration of the work, the intensity of its implementation, the length of the rest intervals are given in Table 3.

*Basic stabilizing mesocycle* consisted of four one-week microcycles: one retractor and three impacts. In each microcycle, a combination of cross-country running with smooth running by an interval method was continued. The planning of running activity in this mesocycle by load components is presented in Table 4.

An individual program of athletics running has been developed in the basic developing and basic stabilizing mesocycles. It is very similar to the construction of the training process with the Moroccan system, following which athletes do three hard trainings per week, and crosses run the rest of the days. Crosses, as a rule, begin with intensity 4 min·km<sup>-1</sup> and grow to 3.05–3.15 min·km<sup>-1</sup>, have duration of up to 1 hour. These jogs are the basis for the development of endurance

athletes. Thus, the results of our study fully coincide with the data of many specialists: A. A. Poleshchuk [4], D. Prisyajnyuk and R. Romanenko [10], N. Semenets [14] and other specialists who studied the experience of foreign schools running for long distances. In addition, running work was performed by an athlete with an intensity of at least 80% of the maximum personal result, fully confirms the results of A. Kozlova's research [3].

*Control and preparation mesocycle* consisted of intermediate and competitive microcycle. In the underwater microcycle a decrease in the volume of running work was observed, which acquired a special character, as close as possible to the competitive activity.

The last hard workout was conducted no later than 5 days before the start. Therefore in the competitive microcycle a day before the start it was planned only morning training. On the eve of the competition, light weight training was conducted. Such a construction of the training process on the eve of the competition, in the opinion of T. V. Samolenko [12], is the most effective.

In the competitive microcycle the sportswoman took part in the auxiliary competitions "Sports games on track and field cross-country among teams of districts and cities" (Alexandrovka settlement). Competitive exercise – cross-country running 3000 m, which the athlete overcame for 12.00 min, fulfilled the candidate's standard for a master of sports (CMS) and was selected for the Ukrainian Championship in track and

**Table 3**

**Structure and content of running work in the basic developing mesocycle**

Basic developing mesocycle						
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
<b>Retracting microcycle</b>						
Run 4x200 after 4 min rest (80%)	Cross – 20 km	Run 4x400 m after 5 min rest (75%)	Day-off	Run 150x200x300x200x150 (80%)	Cross – 20 min	Day-off
<b>Retracting microcycle</b>						
Run 8x100 m after 3 min rest (80%)	Cross – 20 min	Run 3x800 m after 7 min rest (75%)	Cross – 20 min	Run 2 series 4x100 m after 1–2–3 min rest (85%)	Cross – 30 min	Day-off
<b>Impact microcycle</b>						
Run 4x400 m after 7 min rest (90%)	Cross – 20 min	Run 4x300 m after 5 min rest (85%)	Cross – 15 min	Run 2 series 4x100 m after 3–2–1 min rest (90%)	Cross – 30 min	Day-off
<b>Impact microcycle</b>						
Run 4x400 m after 5 min rest (85%)	Cross – 30 min	Run 2x1000 m after 9 min rest (85%)	Day-off	Run 2 series 4x100 m after 3–2–1 min rest (90%)	Cross – 30 min	Day-off

**Table 4**

**Structure and content of running work in the basic stabilizing mesocycle**

Basic stabilizing mesocycle						
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
<b>Retracting microcycle</b>						
Run 4x200 m after 3–4 min rest (85%)	Cross – 20 min	Cross – 30 min	Day-off	Run 2 series 4x100 m after 2–3 min rest (90%)	Cross – 30 min	Day-off
<b>Impact microcycle</b>						
Run 4x800 m (200 m – maximum, 100 m – slowly) after 5 min rest	Cross – 20 min	Cross – 45 min	Cross – 45 min	Day-off	Cross – 15 min	Day-off
<b>Impact microcycle</b>						
Run 4x800 m after 5 min rest (90%)	Cross – 20 min	Run 3x400 m after 5 min rest (80%)	Day-off	Cross – 30 min	Cross – 20 min	Day-off
<b>Impact microcycle</b>						
Run 4x100 m after 1–2–3 min rest (90%)	Cross – 20 min	Run 10x400 m after 3 min rest (80%)	Cross – 45 min	Cross 6 km (500 m – maximum, 500 m – slowly)	Cross – 45 min	Day-off

**Table 5**

**Structure and content of running work in the control and preparation mesocycle**

Control and preparation mesocycle						
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
<b>Intermediate microcycle</b>						
Run 5x400 m after 200 m short steps run (90%)	Cross – 15 min	Run 5x500 m after 5 min rest (85%)	Cross – 30 min	Run 10x100 m after 3 min rest (90%)	Cross – 15 min	Run 2 series 3x150 m after 5 min rest (80%)
<b>Competitive microcycle</b>						
Day-off	Small load			Auxiliary competitions		

field cross (Belaya Tserkov) (Table 5).

The results of the performance of the athletes in the auxiliary starts testify to the effectiveness of the developed individual program of running athletics, specializing in running for long distances and preparing for the cross season. This program should be adjusted by each specialist depending on the level of physical and functional preparedness of the athletes, training conditions and planned results.

## Conclusions

1. It is determined that in the planning structure of the training process runners for long distances plan a double summer training cycle. The preparatory period of the first macrocycle of preparation for the cross season contains three stages – general, special and pre-competitive training.

2. Developed and implemented in practice, an individual program of running athletics, specializing in running for long distances and preparing for the cross season. This program is presented on the basis of a system of mesocycles and microcycles. The structure and content of individual running work in each mesocycle is disclosed.

3. The main tendencies of the growth of the running loads in each mesocycle are determined: in the retracting mesocycle, an increase in the volume of the race loads while maintaining the intensity of their performance; in the basic developing mesocycle, an increase in the proportion of specific running loads and the intensity of their performance; in the basic stabilizing mesocycle – stabilization of the volume of specific running loads with increasing intensity of their performance; in the control-preparatory mesocycle – reducing the volume of specific running loads.

4. Effectiveness of the introduction of this program in the practice of the training process of athletes, specializing in running for long distances, in preparation for the cross season on the basis of increasing speed indicators of the athlete (from 4.30 min·km<sup>-1</sup> to 4.00 min·km<sup>-1</sup>), improvement of the individual result in the competitive exercise – cross 3000 m (12.00 min) and increase of sports qualification on track and field cross (CMS).

**Prospects for further research** will be directed to the development of a further individual program of running work of female athletes specializing in long distance running, in the competitive and transitional periods of the first macrocycle of summer training.

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## References

1. Bobrovnyk, V.I., Kryvoruchenko, O.V. & Kozlova, O.K. (2011), "The improvement of the training process of the qualified athletes at the stages of long-term training", *Pedahohika, psykholohiia ta medyko-biolohichni problemy fizychnoho vykhovannia i sportu*, No. 11, pp. 9-21. (in Ukr.)

2. Volkov, L.V. (2002), *Teoriya y metodyka detskoho y yunosheskoho sporta* [The theory and methodology of children's and youth sport], Olympyskaia lyteratura, Kyev. (in Russ.)
3. Kozlova, O. (2010), "The peculiarities of the system of the athletic training of the highly-qualified athletes indifferent kinds of athletics in the conditions of professionalization", *Sportyvnyi visnyk Prydniprov'ia*, No. 3, pp. 77-80. (in Ukr.)
4. Poleshchuk, A.A. (2010), *Lehka atletyka: Bih na seredni ta dovhi dystantsii. Metodychni vkazivky dystsyplin: "Fizychne vykhovannia", "Fizychna kultura"* [Athletics: running for middle and long distances. Methodological instructions for the disciplines of "Physical Education", "Physical Culture"], KhNAMH, Kharkiv, (in Ukr.)
5. Maleniuk, T.V. & Sobko N.H. (2008), *Orhanizatsiino-metodychni osnovy pidhotovky sportsmeniv. Navchalnyi posibnyk* [Organizational and methodical fundamentals of the athletes' preparation. Educational manual], KOD, Kirovohrad, (in Ukr.)
6. Maleniuk, T.V. (2014), "The influence of the training load on the development of the motor skills of the young athletes at the age of 12–13", *Slobozans'kij naukovy-sportyvnyj visnyk*, No. 1, pp. 58-61. (in Ukr.)
7. Orel, O. (2017), "The structure and content of the training work of the cross-country distance runners in the training period of the annual cycle of preparation", *Fizychna kultura, sport ta fizychna rehabilitatsiia v suchasnomu suspilstvi: zb. nauk. pr. XVseukr. stud. nauk.-prakt. konf.*, 18–19 travnia 2017 roku [Physical culture, sport and physical rehabilitation in modern society: Sb. Art. X Allukr. student science. conf., May 18–19, 2017], Vinnytsia, pp. 151-154. (in Ukr.)
8. Petrenko, N.F. (2011), "Running load soft long-distance runners and the methods of their regulation", *Slobozans'kij naukovy-sportyvnyj visnyk*, No. 2(26), pp. 116-119. (in Ukr.)
9. Platonov, V.N. (2004), *Systema podhotovky sportsmenov v olympyskom sporte. Obshchaia teoriya y ee prylozhenia* [The system of preparing athletes in the Olympics sport. General theory and its applications], Olympyskaia lyteratura, Kyev. (in Russ.)
10. Prysiazhniuk, D. & Romanenko, V. (2008), "The methodology of training in endurance running: past and present", *Fizychne vykhovannia, sport i kultura zdorov'ia u suchasnomu suspilstvi*, Vol. 3, pp. 309-312, available at: <http://sport.eenu.edu.ua/php/sport/article/download/1556/1524>.
11. P'iatnychuk, V.D. & Piatnychuk, H.O. (2013), "The training program for the middle and long distance runners in the flat land environment", *Naukovyi chasopys Natsionalnoho pedahohichnoho universytetu imeni M.P. Drahomanova*, Vol. 5(30)13, pp. 170-174. (in Ukr.)
12. Samolenko, T. (2011), "The individual experience of building training process at the stages of the immediate preparation for the major competitions in running for the middle distances", *Pedahohika, psykholohiia ta medyko-biolohichni problemy fizychnoho vykhovannia i sportu*, No. 7, pp. 71-76. (in Russ.)
13. Samolenko, T.V. (2012), "Training micro-cycles during the autumn-winter training period of the female middle distance runners of high qualification", *Slobozans'kij naukovy-sportyvnyj visnyk*, No. 2, pp. 97-100. (in Russ.)
14. Semenets, N. (2012), "The survey of the experience of the foreign schools for middle and long distance running in the XX century", *Teoriia ta metodyka fizychnoho vykhovannia*, No. 4, pp. 45-49, available at: <http://www.tmfv.com.ua/journal/article/download/787/771>.
15. Sobko, N.H. & Sobko, S.H. (2010), *Upravlinnia pidhotovkoiu yunoho sportsmena. Navchalno-metodychni materialy* [Guidance for the preparation of the young athlete. Educational-methodological materials], KOD, Kirovohrad. (in Ukr.)

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