

## **Opportunities For Developing the Physical Fitness of Students with Disabilities Based on an Individual Approach**

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**Abstract.** *This article discusses the possibilities of developing the physical fitness of students with disabilities (students of higher education institutions) based on an individual approach. An individual approach involves adapting physical activity taking into account the student's functional capabilities, health, psychological state, motivation, and study/living conditions. The research methods used were the analysis of regulatory and scientific sources, modeling of physical fitness assessment criteria, and the development of the “screening - functional assessment - SMART goal - program design (FITT) - adaptation - monitoring - replanning” algorithm for higher education conditions. As a result, stages for drawing up an individual plan, organizational and pedagogical conditions for creating an inclusive environment, as well as rubrics and observation sheets for safe dynamic monitoring of physical fitness were proposed. The discussion justified the importance of cooperation with a medical professional, rehabilitation specialist or sports doctor, safety protocols, motivational support, and the use of digital aids in implementing this approach.*

**Key words:** *Individual approach, students with disabilities, physical training, inclusive education, adapted physical education, functional assessment, FITT, monitoring.*

### **1. Introduction**

From a socio-psychological perspective, worldviews are shaped by individual experiences and Students with disabilities should have equal access to higher education, campus life, and health promotion opportunities. Physical education and sports activities not only support healthy lifestyles , but also have a positive impact on socialization, self-confidence, stress management, and academic performance. International normative approaches recognize inclusive education as a human right: Article 24 of the UN Convention on the Rights of Persons with Disabilities (CRPD) states that access to and study in higher education should be free from discrimination, equal opportunities, and reasonable accommodation (UN, 2006; UNDESA, nd).

The most important principle in the development of physical fitness is an individual approach. Because there can be significant differences in the type and degree of disability, comorbidities, functional limitations, experience and motivation. Therefore, instead of a “one-size-fits-all” training model, a program that is tailored to the individual functional capabilities and goals of the student, safe and provides gradual growth is needed. The World Health Organization, in its 2020 guidelines on physical activity, also identifies the benefits and general directions of physical activity for persons with disabilities, and provides recommendations for increasing movement and reducing sedentary behavior (WHO, 2020; Bull et al., 2020; Carty et al., 2021).

The relevance of this article is that the development of physical fitness for students with disabilities in higher education settings often depends on factors such as (1) adaptation of campus infrastructure, (2) methodological support, (3) professional cooperation, and (4) assessment and monitoring systems. Also, practical guidelines on disability inclusion for higher education institutions indicate the need to adapt the educational process, services, and environment based on the principles of universal design

(IFC, 2024).

## 2. Methods

This article is of a theoretical-practical nature and was prepared based on the following methods:

- 1) Analysis of normative and conceptual sources: CRPD (Article 24), UNESCO approaches to inclusive education, and applications of disability inclusion for higher education institutions were studied (UN, 2006; UNESCO, nd; UNICEF, 2017; IFC, 2024).
- 2) Analysis of scientific recommendations for health-promoting and adapted physical activity: WHO (2020) guidelines and scientific reviews on physical activity were summarized (WHO, 2020; Bull et al., 2020).
- 3) Pedagogical modeling: a 7-step algorithm for creating an individual plan in higher education settings has been developed (screening - functional assessment - SMART goal - program design (FITT) - adaptation - monitoring - replanning).
- 4) Design of assessment tools: A rubric, observation chart, and individual plan templates were developed based on functional and participation-oriented indicators of physical fitness.

Ethical and safety principles: Informed consent, confidentiality of personal information, consideration of medical indications, screening for risk factors, and collaboration with a sports physician, rehabilitation specialist, or physical therapist when necessary, were identified as the main requirements for designing an individualized program. The ACSM guidelines for exercise prescription also emphasize the importance of screening and ensuring safety (ACSM, 2025).

## 3. Result

The results are presented in three blocks: (A) individual approach algorithm, (B) opportunities at the higher education institution level, (C) monitoring and evaluation tools.

### A) 7-step algorithm of an individual approach

1. Screening and risk identification: a brief survey on general health status, complaints, possible contraindications, previous physical activity experience, and medication status.
2. Functional assessment: independence in activities of daily living (ADL), walking/wheelchair mobility, balance, arm strength, endurance (adapted tests), range of motion, and pain monitoring.
3. SMART goals: specific, measurable, achievable, relevant, and time-bound goals (e.g., increase exercise participation sustainability within 6-8 weeks, improve current functional performance).
4. Program design (FITT): adaptation based on the principles of Frequency, Intensity, Time, and Type of activity. The WHO guidelines define the principle of "increase activity" as the main starting point; therefore, the program is primarily focused on regularity and safety (WHO, 2020; Bull et al., 2020).
5. Adaptation: environment (entrance-exit, safe corridor), equipment (suitable bench, light weights, elastic bands), communication (visual/audio material), support person or "buddy" system.
6. Monitoring: training diary, monitoring of RPE (subjective exertion), recording of signs of pain and fatigue, weekly/monthly reassessment.
7. Replanning: updating the workload and content based on results and student feedback.

### B) Practical opportunities in higher education settings

1. Infrastructure and services: accessibility on campus, adequate toilets and showers, easy access to the gym, clear safety signage.
2. Integration into the educational process: adaptation of the physical education module, inclusive groups in elective subjects and sports clubs, blended format - short video instructions and remote control.
3. Collaboration of specialists: a multidisciplinary team between a physical education teacher + sports methodologist + medical worker (rehabilitation specialist/physiotherapist if necessary).
4. Social support: peer coaching, motivational groups, inclusive sports events.
5. Digital and assistive technologies: heart rate/activity tracking apps, subtitled video, screen reader-friendly materials.

### C) Evaluation and monitoring tools

As a result, a rubric-based assessment model was proposed. The rubric assesses physical fitness not only in terms of athletic performance, but also in terms of functional movement, participation, and self-management skills. This approach is consistent with the principles of inclusive education, which envisages adaptation and equal opportunity (UNICEF, 2017; CRPD, 2006).

**Table 1. Individual adaptation matrix (overview)**

<b>Type of restriction (general)</b>	<b>Environmental adaptation</b>	<b>Methodological adaptation</b>	<b>Communication and security</b>
Movement/mobility (wheelchair, orthopedic limitations)	Entrance and exit corridors, ramps, non-slip flooring; adequate shower/changing room; free movement area in the training area.	Gradual increase in load; exercises that support locomotion; appropriate equipment (rubber band, light weights).	Constant monitoring for signs of pain/fatigue; safety distance; support person/buddy system (if necessary).
Vision (low vision or blindness)	Light and contrast; obstacle-free walkway; tactile markings; clear positioning (same order).	Demonstration combined with tactile and verbal guidance; steady rhythm; safe trajectory; pair exercises.	Clarity of verbal commands; signal sounds; permanent position of the coach; advance notice of field checks.
Hearing (hard of hearing or deafness)	Visual signals/indicators; instructions in a visible location; noise reduction.	Instruction - demonstration - repetition; elements of pantomime/gesture; clear distribution of roles in group training.	Subtitled video; written instructions; visualisation of emergency signal; maintaining eye contact with the trainer.
Chronic diseases or neurological conditions (common)	Micro-rest area; drinking water; temperature/ventilation control.	Intensity adjustment (RPE); interval approach; individual pace; limit overexertion.	Taking into account medical instructions; protocol for stopping training if symptoms occur; plan for contacting a doctor.

## 4. Discussion

According to the results of the discussion, the effectiveness of an individual approach depends on three factors:

(1) safety and medical-pedagogical cooperation; (2) an inclusive environment and adapted methodology; (3) motivation and consistent monitoring.

First, the WHO guidelines provide general guidelines for physical activity recommendations for people with disabilities, but in practice, the workload and type of training are determined individually for each student based on functional status (WHO, 2020; Carty et al., 2021). The 2025 ACSM guidelines and expert consensus statements also note the need to reduce barriers in program design, adopt a step-by-step approach, and provide practical recommendations (ACSM, 2025; Ptomey et al., 2025).

Second, inclusion in a higher education institution encompasses not only classrooms or learning resources, but also sports infrastructure, services, and campus culture. The IFC's Guide for HEIs describes the gradual development of an inclusive environment through a "maturity model," which also helps to systematically improve physical education and sports activities (IFC, 2024).

Third, motivation and social support are often crucial. Peer mentoring, small groups, recording progress, and self-monitoring (daily, simple metrics) for students increase participation. Assessment should be "developmental" rather than "punitive": the rubric shows the student's dynamics and provides a basis for planning the next stage.

Limitations: The article presents theoretical and practical modeling, not empirical experimental results. In the future, it would be advisable to test the effectiveness of the program with pilot groups in a higher education institution through pre-post evaluation and participation rate indicators.

## **5. Conclusion**

In conclusion, the main opportunity to develop physical fitness of students with disabilities is to systematically establish an individual approach. The 7-step algorithm proposed in the article (screening - functional assessment - SMART goal - FITT design - adaptation - monitoring - replanning) is a convenient model for practical application in higher education settings. Also, inclusive infrastructure, professional collaboration, peer support and integration of digital tools will enhance physical activity and achieve sustainable results. The assessment rubric allows you to track student growth in a safe, fair and developmental way. hizmat kiladi.

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