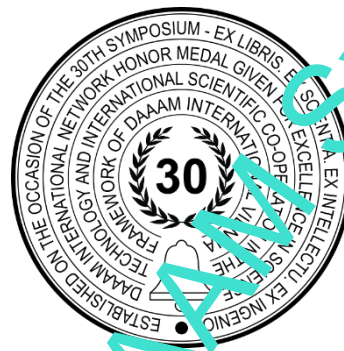


ENSURING HEALTH AND SAFETY AT UNIVERSITIES

Petra Dostálová & Gabriela Králíčková



This Publication has to be referred as: Dostálová, P[etra]; Králíčková, G[abriela] (2022). Ensuring health and safety at universities of the 33rd DAAAM International Symposium, pp. xxx-xxx, B. Katalinic (Ed.), Published by DAAAM International, ISBN 978-3-902734-xx-x, ISSN 1726-9679. Vienna, Austria
DOI: 10.2507/33rd.daaam.proceedings.xxx

Abstract

This thesis deals with the issue of rules for the protection of occupational safety and health protection in colleges and universities in a few simple points. Identification and categorization of risky workplaces and, finally, proposals for improvement overall security status. The aim of this work is to educate the public about the issue of occupational safety at universities, which is often grossly underestimated.

Keywords: ensuring health; safety; university; students safety; employees safety

1. Introduction

Every company can be exposed to the risk of accident or injury to employees, and therefore the management of each of them sets its own safety rules and measures for its employees.

There are a lot of students at the university, and many employees work in various activities, both in the main field of education, complementary or in multiple activities when participating in projects, further within the activities within the framework of economic agreements and research activities. The same goes for students whose education is involved in these activities differently.

The purpose of this article is to present the possible risks that employees and university students may face. At the same time, the methods and obligations the employer must fulfill and provide to avoid risks will be listed.

2. Ensuring work safety

Ensuring work safety at universities is considered one of the most important tasks of an employer. In addition to several hundred to thousands of students, the university campus is home to the employees themselves, i.e. professors, technical workers, officials, etc., but also to various guests, be it parents of students, visitors with various goals and interests (whether it is partners from other schools or possible supplier companies who came here on business, officials, people interested in possible studies, etc.) and possibly also employees or trusted persons from other companies who, for example, share a building with university, or they do their work here (we can mention, for example, bricklayers, plumbers and many others). There are really many options and the employer should consider them all.

Occupational safety and health protection at work are protected by separate laws and decrees in the Czech Republic. Their compliance is strictly required and controlled by state administration authorities. Every company is obliged to train its employees and familiarize them with the possibility of certain specific risks. Employees should thus be able to react correctly in a critical situation and thus protect their health and colleagues' health.

2.1 Students

The content of studying for college and university students is not only sitting safely in desks and studying, but also many other activities. Above all, in technically oriented fields, they encounter activities that have nothing to do with the conditions of their future employment. Working on computers, but also mechanical devices and machines, research in laboratories, working with electronics, but also chemicals, hot material, machine parts and a lot of other not very safe looking things. The phenomenon is not exceptional when students have to work either on old devices, because newer ones are not available for various reasons or excuses, or on the contrary, on new but not very reliable or inappropriately located or equipped machines. [3]

And even if students sometimes go outside the school premises as part of their professional practice, many of them end up in the workplace, where they face the same danger as the surrounding employees. But unlike these students, they are at least clearly defined in all kinds of contracts and regulations, and they also usually have a lot more expertise and experience than someone who hasn't graduated yet. Thus, ensuring the safety of pupils is a very difficult task that requires due attention.

Students do not have to have any professional or medical qualifications during their studies. Professional competence can be achieved precisely by studying and gaining first experience, which is exactly what studying is for. Medical fitness is also not addressed much, and the university does not require students to undergo any medical examinations or tests. Restrictions resulting from the Labor Code apply to the work of minors (that is, practically no one at universities) and pregnant women who may appear during their studies. Pregnant students usually have exceptions for more complex work, for example in workshops or laboratories, they are also taken into account during studies, etc. [4]

Students will receive introductory training at the time of starting their first year of university. The content of the training is usually general information about the functioning of the school and study, about the basics of safety and about the rules that must be followed. The training is carried out by an authorized representative, usually an employee of the study department. If a student gets into some specialized classrooms during his studies, e.g. with a focus on computers, he should be instructed by his professor about the special case in which this classroom and the work in it differ from ordinary studies, about special instructions on how to avoid risks and how to respond to it, if necessary, about the risks that students face and about the correct procedure for working on the assigned machines.

Generally, different behaviour is expected from university students than children in primary and possibly secondary and vocational schools. University students are often adults who are fully aware of possible risks and naturally try to avoid them. Nevertheless, universities should also take out suitable insurance to cover injuries financially.

Air temperature affects the productivity and health of students and teacher. Long-term components of comfort include air temperature, mean radiant temperature, humidity, and room air velocity, along with the personal factors of clothing insulation and activity level. But the understanding of what makes a space comfortable is still evolving, and these components, we're finding, are only part of the thermal comfort puzzle. It is important that students and teachers have the best possible conditions. [11]

2.2 Employees

Employees Fortunately, the issue of security for the faculty and other employees of the university is relatively well addressed. As for regular employees, they are subject to clear rules and specific laws. When they enter the job, they undergo initial training, which is also repeated at regular intervals. They are professionally prepared for the performance of their jobs and know what dangers they and those around them face during work.

Each employee must demonstrate appropriate professional medical fitness, according to the requirements of the place where he applies. Medical fitness proves when starting work and then with regular medical examinations, arranged by the school. A physician examining a prospective or current employee must assess whether he would be exposed to special risks arising from them while performing his work state of health and whether he is even fit to do this job. If it doesn't find any risks or other obstacles, will confirm their findings by signing the "Request for medical assessment the status of the agreed work", which he hands over to the employee, who then immediately hands it over to his employer employers.

They must then keep lists of all risk workplaces (divided into category) and employees working on them, including medical documentation tours so as not to lose track. In addition to medical qualification, there is also professional qualification. Here they have to this must be demonstrated again by the employee upon starting employment and thereafter at each transition to a new job risky workplace. Professional competence is measured both by the age of the employee, so above all according to the education achieved in a certain field, taking into account his

work experience. Expertise is very important because different machines and according to the Labor Code, only professionally qualified persons can operate the equipment.

Each employee receives initial training during the start of employment, further professional training directly at your workplace from a senior employee and periodic safety training, which is repeated at regular intervals according to his job. An employee can receive further training whenever the content of his job changes or switches to another workplace. Furthermore, repeated training is carried out periodically once every two years, which has the goal is to remind employees of the principles of health and safety in the workplace. [8]

All the mentioned steps, right down to the correct categorization of work and the related frequency of medical checks, as well as the decision about the need to provide personal protective equipment, are the activities of a professionally qualified person who determines the rules of work safety at specific universities. At the same time, this person trains employees and draws attention to possible risky situations and their possible solutions.

2.3 Visitors

However, not only students and staff move around the school grounds, but also many people who seemingly have little to do with the school itself. Each school, for example, organizes several events, whether it is open house days, benefits, graduation and graduation ceremonies, or even presenting the work of its students, there are many options and many spectators from among the students' families, those interested in studying, come to see each of them, curious passers-by, etc. In addition, each school also has a lot of cooperating entities and suppliers or contracted external workers who also have to visit the school campus in order to perform their jobs. [9]

Most colleges and universities are so-called public, in their public spaces, so even people who have nothing to do with the school can move freely. These visitors must follow the visitor regulations, which are available at the gatehouses and contain quite logical points such as no smoking, no feeding animals (except guide dogs), but also a ban on open fire or launching drones. Every visitor would with it he should have been informed of the rules and must follow them. [1] They have no right to enter the workplace of school employees or in any way disrupt the activities of the university.

It is the openness of university premises that can be a security risk. Even less of a chance in occupational safety and health protection. However, universities are responsible for the safety of visitors on their premises, and even here, the university management should decide on arranging suitable liability insurance.

3. Dangerous university workplaces

Concierge - control room must carry out activities associated with the monotony of monitoring security and monitoring systems, rounds after assigned area. They are also exposed to great responsibility in monitoring the EPS system, security systems, control of entrance ramps to the premises, camera systems, systems detection of dangerous substances. When running errands, they are influenced by weather conditions. And in the winter months, they must be prepared for snow removal in the entrance area object. At the same time, the gate operator provides the fire alarm and is the first group employees involved in solving not only fire alarms but solving them in general emergency situations. [6]

However, there are certain risks in all workplaces. They are primarily associated with humans a factor that cannot be largely influenced and must be taken into account. Among the most serious mistakes are insufficient knowledge or, conversely, underestimation rules and regulations, which can lead to major damages. Employee his actions can endanger himself and those around him, including students. This risk even senior employees or the management of the company (university) are not protected. Thanks to their recklessness, they can, for example, carry out activities that bring an unreasonable risk or are restricted or outright prohibited by law. [2]

Universities include laboratories focused on the fields offered. These laboratories often work, for example, with high-power lasers. A laser of sufficient power can cause serious and irreversible injuries careless users. In addition, they work with devices of great value, which also contributes to their stress.

To ensure health protection, it is necessary to have an appropriate number of mobile-first aid kits and other tools for providing workplace first aid.

4. Proposal to improve security at universities

A person professionally qualified in risk prevention is only an advisory function without managerial ones powers, but equipped with the duties specified in the law. Its provisions in an organizational structure close to the statutory representative, would prevent a conflict of interests and ensuring safety and health protection at work would be part of the school's top management, universities. This would avoid the lengthy transition between risk identification and elimination when the security engineer must convince management of the urgency of taking appropriate action. [7]

Therefore, the security technician not only does not enjoy the appropriate respect that should be the profession was supposed to enjoy from the point of view of the contribution to society (which the security engineer his does not make work much easier), but the question of safety is not among the more important questions school management (ie, for example, the distribution of finances).

Subconscious awareness of imminent risks in the workplace is also present among senior employees sometimes very small or even minimal. He delights in the nature of each person optimism (or perhaps pride or a sense of security) is to downplay the warning and adjust one's work according to one's own, not paying proper attention to training topics, etc. Nothing can be done about it, however, the subconscious awareness of impending risks needs to be increased, for example by already proposed measures ensure the management of safety and health protection from the highest places and the policy set in this way implement security. [7]

The system of safety and health protection at work at universities should be constantly improved. Many times, however, providing new or updating existing safety regulations is not enough for development universities (construction of new workplaces, introduction of new work activities, etc.) or there is usually not enough funding or time to develop them. The management of universities therefore should have given due attention to this problem. They often spent resources moreover, it also returns in the form of a safe working environment, a low incidence of accidents, and openness more options or more satisfied employees.

In addition, with each individual, over time, there is an inevitable resignation and acceptance of risks. Therefore, it is crucial to constantly remind this area of safety as part of regular training.

5. Basic points of safety and health protection when working at universities

Universities should fulfill the following minimum and basic obligations in the field of occupational safety: [5]

- provide information on health and safety to employees, teachers and pupils and educate them regularly,
- manage health and safety risks - search for, assess and evaluate risks related to local activities and the environment,
- when determining measures, consider the danger to pupils during teaching,
- create a school education program that familiarizes pupils with dangers and risks,
- record and document work accidents,
- conduct safety and protection training when working with professional accessories for universities,
- carry out regular health and safety inspection of all employees,
- ensure regular revisions and inspections of all machines and equipment,
- to process and update occupational health and safety documentation,
- observe special hygiene principles and rules for schools,
- introduce students to the risks at work and establish measures,
- introduce students to personal protective work equipment and strictly observe their use,
- introduce students to the principles of fire safety,
- to remind the ban on the consumption of alcohol and addictive substances.

The risks that occur most at universities. The most common risk factors of working conditions include in particular: [5]

- mental and physical stress
- Chemicals,
- dust, noise and vibrations,
- electrocution,
- poisoning when working with chemicals,
- visual strain,
- insufficient work ergonomics,
- non-ionizing device,
- electromagnetic fields,
- work with biological agents,
- heat or cold stress,
- work with pressure cylinders and gases,
- work at heights.

As employers have a legal obligation to carry out risk assessments that are suitable and adequate in accordance with the Occupational Health and Safety Act, so do schools and colleges. [10]

6. Conclusion

Ensuring security at universities is a rarely addressed topic. The problem is usually in legal and internal regulations, which often remain misunderstood, ignored or belittled, leading to many downstream problems, especially when introducing new workplaces and activities into operation. The risk of stopping these activities from operation or the occurrence of other extraordinary events in the future is disproportionate big.

A significant problem for university visitors. They are rarely trained and fully prepared for the pitfalls they may encounter during their stay at school, above all during planned school events, where as part of the tour they can also get to specialized workplaces where they lack thorough safety training and awareness about the dangers that occur here.

The issue of occupational safety at universities is because in their university campuses there are both students, employees and visitors, very comprehensive. This article focused on the specification of these areas and the proposal of possible measures that could lead to improvement current state.

The article generally presented the environment of Czech universities related to the primary, mandatory provision of occupational safety and health protection. The territory was divided according to the type of people who appear and work most often at universities. Using their examples, individual points specified that universities must ensure and comply with. Furthermore, personal risks faced by persons on the premises and working for universities were written down.

Research in this area will continue by analysing the actual state of documentation and individual measures at the chosen university.

7. Acknowledgments

This study was prepared with the help of funds provided by Tomas Bata University in Zlín - Faculty of Applied Informatics within the project IGA/FAI/2022/005.

8. References

- [1] OSH info [online]. (2015). Prague: Research Institute of Labor Safety, [cit. 2022-09-10]. Available from: <http://www.bozpinfo.cz/kategorizace-praci-1>
- [2] Health and safety in school facilities. (2013). Ostrava: University of Ostrava, ISBN 978-80-7464-374-3.
- [3] ČSN 01 8003 (018003). (2017). Principles for safe work in chemical laboratories. 2nd edition.
- [4] Bílek E. (2006). A practical example with commentary on how to evaluate workplace risks. OSH info [online]. Prague: Research Institute of Labor Safety [cit. 2022-09-21]. Available from: <http://www.bozpinfo.cz/prakticky-priklad-s-komentarem-jak-vyhodnotit-rizika-na-pracovisti>
- [5] BOZP.cz. (2019). [online]. Prague: Occupational safety for universities. Health and safety requirements, obligations and risks [cit. 2022-09-24]. Available from: <https://www.bozp.cz/aktuality/bezpecnost-prace-pro-vysoke-skoly/>
- [6] Rudolf, Ladislav. (2013). Health and safety in school facilities. Ostrava: University of Ostrava, ISBN 978-80-7464-374-3.
- [7] Romančenko, Jan and Pavel Skácelík. (2018). OSH and PO in examples of school practice. 2nd edition. Karviná: Paris, ISBN 978-80-8717-340-4.
- [8] BOZP.cz [online]. (2015). Prague: OSH training for school employees, [cit. 2022-09-27]. Available from: <https://www.skolenibozp.cz/aktuality/skoleni-bozp-pro-zamestnance-skoly/>
- [9] University of Tomas Bata in Zlín - student guide, (2021). [online]. Available from: https://pruvodcestudenta.utb.cz/wp-content/uploads/2021/10/pruvodce_utb_2021_2022.pdf
- [10] Safetywallet.co.za. (2021). [online]. Managing health and safety schools and colleges. [cit. 2022-10-20]. Available from: <https://www.safetywallet.co.za/Blog/managing-health-and-safety-schools-and-colleges>
- [11] Králíková R., Veselý J., Impact of the environmental factors and its effects on productivity and health. (2018). DAAAM International, ISBN 978-3-902734-20-4, ISSN 1726-9679, Vienna, Austria. DOI: 10.2507/29th.daaam.proceedings.016