Doctoral School of Military Engineering

The Doctoral School of Military Engineering focuses on fields of research that are specifically related to the military application of engineering. This includes the training and preparation for scientific research in various related fields ranging from basic and applied research and development, through technology and technology-transfer to technological innovation.
Training from the Doctoral School is available in the following forms:

- organised training
  - full-time training (funded by scholarship or individually through tuition fee)
  - part-time (funded individually through tuition fee)
  - individual training (funded individually through tuition fee)
- individual preparation

The organised training lasts for 6 semesters and applies the credit points system. In order to successfully complete their training and to receive their leaving certificate (absolutory) by the end of the 6th semester, PhD students must obtain at least 180 credit points in accordance with the following criteria:

- study obligations (min. 50 credits)
- scientific research work (min. 120 credits)
- giving lectures (max. 10 credits)

After having successfully finished their PhD studies, students of the Doctoral School will have gained a knowledge that enables them to participate, with a great advantage, in the competition for higher ranking scientific positions in various fields of expertise within both the public and the private sectors.

Prof. Dr. Zsolt Haig, PhD
Head of School, professor
Prof. Haig has been serving the University since 1989, and in 2005 he became Leader as Vice-dean of the Faculty. Received the prestigious Boyai Scholarship for his academic research and received the Military Science Memorial Shield in 2013. Author of numerous publication and mentored several MSc and PhD students in his research areas**:** Information operations; Information warfare; Electronic warfare; Attack and defence of information infrastructures and Information security.

Research areas

Military Engineering Infrastructures
The Military Engineering Infrastructures research area includes the formation of PhD students who conduct scientific research about the design, the organisation and management of construction, and the management of maintenance of those establishments that are included in the marked topic groups of the given research area, at times of peace and war or during the application of extraordinary law and order.
Head of research area: Prof. Dr. Sándor Szabó

Military Technology and Robotics
This field of research includes the theory and practice of the development, production and modernization, as well as other activities related to the endurance of, unique structural

solutions, military application, quality management or analysis-evaluation methodology of military equipment.
Head of research area: Prof. em. Dr. Károly Turcsányi

Defence Electronics and ICT
This area includes the practitioners of technical innovation, as well as the basic and applied research of the system of devices and procedures (radar, telemetry, informatics, communications, electronic warfare and space research) applied in the defence sector.
Head of research area: Prof. Dr. Zsolt Haig

Environmental Security and Disaster Management
This field deals with the research of environmental risks as a priority of our security, including the prevention of potential disasters and accidents or the elimination of damages along with the research of questions related to the technical aspects of reconstruction.
Head of research area: Dr. László Földi

Military Logistics and Defence Economy
The research area of Military Logistics and Defence Economy conducts research about the sustainment, development and application of the technical sub-systems of the logistical and defence economics system in relation to the military and defence sector.
Head of research area: Dr. habil. Attila Horváth

Security Technology
This area includes the scientific research of problems arising in the fields of security technology, security defence, personal and property protection, protection of information, occupational safety, fire protection, accident prevention, environmental protection and disaster management.
Head of research area: Dr. Tamás Berek

Defence Management
The scientific work carried out in this field aims to research the occasional planning, organisational and management tasks during a state of extraordinary law and order as defined in The Fundamental Law of Hungary and the Home Defence Act.
Head of research area: Dr. habil. Zoltán Grósz

Leading academics, core members:

Name	Research areas
Dr. László Földi, PhD	Chemical warfare agents; Chemical weapons; Disaster management; Hazardous materials; Environmental protection
Prof. em. dr. László Halász DSc	Disaster relief; CBNR defence; Polymer processing; Rheology
Dr. Júlia Hornyacsek PhD	Psychological demand of defence personnel during disaster relief
Prof. dr. György Kende DSc	Military technology; Defence industry; Research and technology; Relationships between chess and military (technology) matters
Prof. dr. László Kovács PhD	Information society; Cyber terrorism; Information operations; Electronic warfare; All source intelligence
Prof. dr. Sándor Munk DSc	Military informatics; Information interoperability; Common situational awareness; Critical information infrastructure protection
Prof. dr. Gyula Óvári CSc	Air Force innovation; Joint maintainability of Russian and Western type military aircraft; Applicability of VTOL/STOL, STEALTH aerial vehicles, hypersonic- and space aircraft

Prof. em. dr. József Solymosi DSc	Environmental security; Disaster management; Industrial security; Radiation protection; Nuclear chemistry; Critical infrastructure protection; Energy security
Prof. dr. Sándor Szabó CSc	General theoretical and practical parts of engineer support; Modern engineer technical equipment and materials and their applications; Protection against disasters
Prof. em. Károly Turcsányi DSc	Substance of logistics and military techniques in military sciences; Armoured fighting vehicles and tanks; Quality, reliability and up keeping speciality of military technical means
Dr. habil. László Ványa PhD	Electronic warfare; Information operation; Military use of robots; Non lethal weapons Directed energy weapon

Recent graduated PhD students (after 2012. January):

No.	Name	Dissertation title
1.	Béla Tamási	An analysis of the disaster-relief efficiency of the Hungarian Defence Forces
2.	Béla Varga	Technical and technological background of power and efficiency evolution process of gas turbine engines and its influence to the modernisation of military helicopters
3.	Bob Struijk	Influence of the new trends in the economics on the military and industrial robot system design philosophy
4.	Csaba Farkas	Weight reduction of military applicable light aircrafts by using tools of virtual diagnostics according to structural, economy, aviation safety considerations
5.	Csaba Krasznay	Information security solutions of Hungarian electronic government applications
6.	Csaba Lajos Papp	Researching the possibilities of modernizing policing cooperation at the Hungarian-Romanian state border
7.	dr. Attila Farkas	Application of artificial intelligence in robotisation of arc welding and its practical use in military vehicle production
8.	Gábor Faludi	Challenges of BW and Medical Defence against it
9.	dr. Gyula Szabó	Methodology of Military Service Related Ergonomic Risk Evaluation
10.	László Bérczi	Equipment system developments increasing safety of the fire fighter operations under extreme circumstances in the integrated disaster management system
11.	dr. Mária Hernád	The effects of explosion and explosive materials on the human body and the opportunities for prevention
12.	dr. Mária Mátyus	Analysis of drug abuse in the Regular Hungarian Army with a special emphasis on opiates
13.	Edit Nikodém	Novel interpretation of the domestic defence of the population and material resources, requirements of implementation and possible methods
14.	Gábor Sándor Szászi	An assessment of defence requirements to railway system infrastructure and the analysis of its further development potential
15.	Imre Pogácsás	Examination of the aeronautical technical support and maintenance operation of aircraft in the context of armaments transformation
16.	Károly Cseffó	Examination of the cooperation of organizations participating in incident site interventions
17.	Márta Hankó	Possible responses to the effects of climate change, with special regards to the particular needs of the Hungarian Defence Forces
18.	Norbert Daruka	Defense and protection against explosive devices and bombings with malicious intents - particularly in regard of performing EOD duties
19.	Pál Bárkányi	Technical reliability of military electronics reconnaissance systems
20.	Péter Gerő	Use of life tailored e-learning with examples on the military higher education
21.	Péter János Varga	Protecting Wireless Networks of the Critical Information Infrastructures
22.	Piroska Szegediné	An upgrade to competence oriented e-learning model

	Lengyel	
23.	Rita Dominika Fleiner	The role and the realization of database security in critical information infrastructure protection
24.	Róbert Fábos	The present state and possibilities of development of information technology systems supporting the planning, organization and execution of military road cargo transport
25.	Róbert Vég	The role of technical education in road driver training
26.	Sándor Gyányi	Methods of Denial of Service attacks and applicable ways of defence
27.	Tibor Pápai	Military-medical knowledge and competences of the medical officers, and junior officers, their development opportunity
28.	Valéria Póserné Oláh	Information security aspects of information systems for public administration
29.	Zsolt Cimer	Methodology for the determination of endangerment generated by the activity of below tier establishments producing, using, storing hazardous materials; quantification of risk reduction measures
30.	Zsolt Fejes	Analysis of upper-respiratory tract diseases in military, battlefield and certified circumstances
31.	Zsolt Illési	Forensic investigation of attacks and criminal offenses in information technology environment
32.	Zsolt Juhász	The experience of physical capacity test of the Hungarian soldiers in foreign military service
33.	Zsuzsanna Balogh	Possible ways of defence of facilities against blast attacks