Doctoral program name

Applied information technology and its theoretical background

Program Leader

Dr. Martin Ispány

Objectives of Doctoral Programme

The objective of the programme is to familiarize PhD students with the most recent applications of information technology, to comprehend their theoretical background, and to engage in research that establishes the foundation for the subsequent development of additional applications. The programme's fundamental objective is to provide scientifically rigorous answers to problems raised by practical needs.

Academic and Research Fields

Knowledge discovery in large databases and data warehouses. Statistical and symbolic data mining methods. Analysis of time-series and spatial data. Special data mining applications.

Modeling, performance analysis, and optimization of traditional and new types of databases, data warehouses, and information systems.

Software architectures and services, Internet of Things (IoT), sensor networks (SN), Quality of Service (QoS).

Modeling and technological implementation of smart city and other community-based applications. Analysis, modeling, and geoinformatic visualization of traffic data.

Research and applications related to virtual, augmented, and mixed reality.

Members of the doctoral programme

Name	Academic degree	Topic poster	Instructor
Dr. Attila Tamás Adamkó	PhD habil.	X	X
Dr. Piroska Biró	PhD	Х	X
Dr. Attila Laszlo Gilanyi	PhD habil.	Х	X
Dr. Zoltán Attila Godó	PhD	Х	X
Dr. Martin Ispány	PhD habil.	Х	X
Dr. Peter Jeszenszky	PhD	-	X
Dr. Laszlo Joseph Kovacs	PhD habil.	Х	-
Dr. Gergely Kovasznai	PhD habil.	Х	Х
Dr. Major Sándor Roland	PhD	-	X
Dr. Laszlo Szathmary	PhD habil.	Х	Х
Dr. Tibor Gábor Tajti	PhD	Х	Х
Dr. George Terdik	DSc.	Х	Х
Dr. Robert Toth	PhD	-	X
Dr. Anikó Szilvia Vágner	PhD	Х	Х

Subjects

	Subject name	Credit	Subject teacher
Compulsory elective subjects	Stochastic data mining and its applications		Dr. Martin Ispány
	Statistics with application to Information Technology		Dr. George Terdik
	Advanced Architectures and Technologies in Software Engineering	2	Dr. Attila Tamás Adamkó
	Extended reality and its applications	2	Dr. Attila Laszlo Gilanyi
	Urban informatics	2	Dr. Martin Ispány
	Symbolic Data Mining		Dr. Laszlo Szathmary
	Statistics and time series with applications	2	Dr. George Terdik
	Verifying Systems by Modern Formal Methods	2	Dr. Gergely Kovasznai
Elective subjects	Development and Application of Software Frameworks	2	Dr. Piroska Biró
	Informatics in life sciences	2	Dr. Zoltán Attila Godó
	Reproducible Research and Scientific Computing in R	2	Dr. Peter Jeszenszky
	Geospatial application development	2	Dr. Robert Toth
	Large Language Models in Information Technology and Software Engineering	2	Dr. Tibor Gábor Tajti
	Architectural and Design Patterns	2	Dr. Major Sándor Roland
	Theory and Practice of Data Modeling: Classical and Emerging Models	2	Dr. Anikó Szilvia Vágner