

UNIVERSITY OF DEBRECEN
Doctoral School of Informatics

Doctoral Program	Applied Information Technology and its Theoretical Background
Director of Doctoral Program Objectives of Doctoral Program	Dr. Terdik György The goal of this program is to acquaint PhD students with high-level applications in information technology, get to know the theoretical backgrounds, and involve students in researches that lay the foundation of further applications. The fundamental objective of the program is to give scientific answers to problems that are raised by practical needs.
Academic and Research Fields	Data science. Statistical data mining. Modelling high speed networks and HPC, multiprocessor technologies. Large scale databases and data warehouses, quality management, data cleaning. Identification and statistical analysis of linear and non-linear dynamic systems. Modelling of information systems and the WEB. Fine tuning of information systems and databases. Statistical models in psychology, pedagogy and computer science. Modelling and technological implementation of an intelligent city and similar, social-based applications. Intelligent objects' machine-to-machine (M2M) communication, traffic modelling and quality measures. Models of quality assurance of electronic teaching environments.
Participant Supervisors	Dr. Adamkó Attila, Dr. Gál Zoltán, Dr. Gilányi Attila, Dr. Godó Zoltán Attila, Dr. Ispány Márton, Dr. Katona József, Dr. Kovásznai Gergely, Dr. Szathmáry László, Dr. Terdik György, Dr. Vágner Anikó
Participant Tutors	Dr. Adamkó Attila, Dr. Baranyi Péter, Dr. ifj. Benczúr András, Dr. Gál Zoltán, Dr. Gilányi Attila, Dr. Godó Zoltán Attila, Dr. Ispány Márton, Dr. Katona József, Dr. Kósa Márk, Dr. Kovásznai Gergely, Dr. Pánovics János, Dr. Szathmáry László, Dr. Terdik György, Dr. Vágner Anikó

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Courses

Codes	Courses	Credits	Type of Exam.	Lecture	Practice	Lab	Tutor	Scient. Grad.
Compulsory courses								
	Stochastic data mining	2	V	E			Ispány Márton	PhD habil
	Statistics with application to Information Technology	2	V	E			Terdik Gy	DSc
	Statistical Analysis of the Distributed Systems	2	V	E			Gál Zoltán	PhD habil
Compulsorily eligible courses								
	Novel approaches for Internet-based applications	2	V	E			Adamkó Attila	PhD habil
	Virtual reality systems	2	V	E			Gilányi Attila	PhD habil
	Advanced data mining methods and applications	2	V	E			Ispány Márton	PhD habil
	Symbolic Data Mining	2	V	E			Szathmáry László	PhD habil
	Statistics for high speed network data	2	V	E			Terdik György	DSc
	Verifying Systems by Modern Formal Methods	2	V	E			Kovácsnai Gergely	PhD habil
Optional courses								
	Development and usage of Content Management Systems	2	V	E			Bíró Piroska	PhD
	Applications of virtual and augmented reality systems	2	V	E			Gilányi Attila	PhD habil
	Informatics in life sciences	2	V	E			Godó Zoltán	PhD
	Functional Programming Languages and its Applications	2	V	E			Kósa Márk	PhD
	Multiparadigm Programming in F#	2	V	E			Pánovics János	PhD
	Statistics and time series with applications	2	V	E			Terdik György	DSc
	Data warehouses	2	V	E			Vágner Anikó	PhD
	Human-Computer interactions	2	V	E			Katona József	PhD

Criteria to complete the program:

With the approval of the program's leader:

1. One course must be selected from the list of compulsory courses; 2 courses must be selected from the list of compulsorily eligible courses; 2 courses must be selected from the list of optional courses.
2. Two courses must be selected from the other programs of the Doctoral School of Informatics (i.e. one course from a program and another course from a different program of the Doctoral School of Informatics).