UNIVERSITY OF DEBRECEN
Doctoral School of Informatics

Minor Field of Comprehensive Examination	Applied Information Technology
Syllabus	Our goal is to acquaint PhD students with high-level applications in information technology, and involve students in researches that lay the foundation of further applications.
Bibliography	1. Gerti Kappel, et all: Web Engineering: The Discipline of Systematic Development of Web Applications, Wiley; 1 edition (June 16, 2006), 0470015543 2. Bishop, C. M., Pattern Recognition and Machine Learning, Springer, 2006. 3. Hastie, T., Tibshirani, R., Friedman, J., The Elements of Statistical Learning: Data Mining, Inference, and Prediction. Springer-Verlag, 2009. 4. Petko Valtchev, Rokia Missaoui, Robert Godin: A framework for incremental generation of closed itemsets. Discrete Applied Mathematics 156(6): 924-949 (2008) 5. P.J. Brockwell and R. A. Davis, Time Series Analysis and Forecasting. 2002. Springer Verlag. 6. N. Cressie and C. K. Wikle. Statistics for Spatio-Temporal Data. Wiley Series in Probability and Statistics, 2011. 7. John L. Hennessy, David A. Patterson: Computer organisation and design: the hardware/software interface Morgan Kaufman Publ., 2005, 5th. ed., San Francisco 8. Ovidiu Vermesan, Peter Friess, Internet of Things – From Research and Innovation to Market Deployment, River Publishers, 2013. 9. Robert W. Sebesta: Concepts of Programming Languages, 10th edition, Addison-Wesley, 2012.

With the approval of the program's leader:

1) Three courses must be selected from the following compulsorily eligible courses of the program:

- Novel approaches for Internet-based applications (Adamkó Attila)
- Information technology (Fazekas Gábor)
- Statistical Analysis of the Distributed Systems (Gál Zoltán)
- Three-dimensional developments in the VirCA system (Gilányi Attila)
- Informatics in life sciences (Godó Zoltán)
- Advanced data mining methods and applications (Ispány Márton)
- Statistical data mining (Ispány Márton)
- Functional Programming Languages and its Applications (Kósa Márk)
- Multiparadigm Programming in F# (Pánovics János)
- Symbolic Data Mining (Szathmáry László)
- Nonlinear time series and applications (Terdik György)
- Statistics for high speed network data (Terdik György)
- Spatial-time modelling with application to IoT (Terdik György)