UNIVERSITY OF DEBRECEN
Doctoral School of Informatics

Complex exam minor subject	Introduction to membrane computing
Syllabus	Cooperative and non-cooperative, catalytic membrane systems; priorities, membrane dissolution, the role of synchronization; active membranes, computational complexity, efficient solution of computationally hard problems. Symport/antiport systems; automata-like membrane systems. Membrane algorithms, applications of membrane computing.
Bibliography	1. P. Frisco, M. Gheorghe, M.J. Pérez-Jiménez: Applications of Membrane Computing in Systems and Synthetic Biology. Springer International Publishing, 2014. 2. Gh. Paun: Membrane Computing: An Introduction. Springer-Verlag Berlin Heidelberg, 2002. 3. Gh. Paun, G. Rozenberg, A. Salomaa (szerk.): The Oxford Handbook of Membrane Computing. Oxford University Press, 2010. 4. G. Zhang, M.J. Pérez-Jiménez, M. Gheorghe: Real-life Applications with Membrane Computing. Springer International Publishing, 2017.
Compulsory subjects for this minor subject	Introduction to membrane computing.
Recommended subjects for this minor subject	