ЦЕНТЪР ЗА ОБУЧЕНИЕ – БАН

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Basic Information:
Course Title: GENERALIZED NETS
Lecturer: Acad. Krassimir Todorov Atanassov
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Total Teaching Hours: 30 h.

Annotation (up to 150 words)

The course covers the basic elements of Petri nets and Generalized Nets (GNs) theories and discusses their main applications in artificial intelligence, industry, medicine, and more.

Course content (brief description by topics or modules)
Topic / Module 1: Definition of a GN. Tokens movement algorithms
Topic / Module 2: Reduced GNs
Topic / Module 3: Extended GNs
Topic / Module 4: Algebraic aspect of GN theory
Topic / Module 5: Topological aspect of GN theory
Topic / Module 6: Logical aspect of GN theory
Topic / Module 7: Functional aspect of GN theory
Topic / Module 8: Methodological aspect of GN theory
Topic / Module 9: GNs as component of the artificial intelligence toolkit
Topic / Module 10: Applications of GNs

Teaching and assessment methods
Exam based on a synopsis or (at the choice of each individual PhD student) preparation of a manuscript/report for publication in a journal or participation in a conference

Competencies acquired as a result of training (3–5 points)
skills for scientific work on the theory of GNs
skills for applying the theory of GNs in artificial intelligence
skills for applying the theory of GNs in economics, industry, medicine and others.

Literature:
Atanassov, K. On Generalized Nets Theory. Prof. M. Drinov Academic Publ. House, Sofia, 2007.
Atanassov. K. Generalized Nets and Intuitionistic Fuzziness in Data Mining. “Prof. Marin Drinov” Academic Publishing House, Sofia, 2020.

Additional information (optional) (e.g., special requirements, laboratory equipment, prior knowledge)