

**Tárgy neve:** Logic programming I.

**Tárgyfelelős neve:** Ásványi Tibor

**Tárgyfelelős tudományos fokozata:** PhD, egyetemi docens

**Tárgyfelelős MAB szerinti akkreditációs státusza:** AT

**Az oktatás célja angolul:**

**a) knowledge**

- They know the theoretical background of Logic Programming (LP), its basic notions, the different readings of logic programs, language constructs, execution model, abstract machine, the programming methodology of LP, principles and tools of program verification in the field, standard program optimizations performed by the LP environment, efficiency measures, and methods of computing these measures. They also know the place of LP in IT, and its areas of applications.

**b) skills and abilities**

- They are able to formalize simple and middle-sized LP tasks, to choose the appropriate LP tools, to organize and build the logic programs, to check and prove program correctness, to identify and eliminate the bugs, to calculate the operational and space complexity of the logic programs, and to improve the efficiency of them.

**c) attitude**

- They are committed to critical feedback and evaluation based on self-examination.
- They are committed to lifelong learning and they are open to acquiring new LP competencies.
- They share their knowledge and consider it important to discuss their solutions with others.
- They are open to proactive collaboration with LP and other professionals.

**d) autonomy and responsibility**

- They undertake to meet deadlines and to have deadlines met.
- They bear responsibility for their own studies as well as for the development of their classmates.

**Az oktatás tartalma angolul:**

- Logic program, its elements, the logical variable; declarative and procedural reading, writing programs by refining relations; data structures, data abstraction, composing recursive programs, partial and proper data, accumulator pairs; search trees, control strategies, logic program with finite search tree.
- Prolog: a logic programming language, its execution model, goal order, rule order, redundant solutions, meta-logical predicates; structured (green and red) cuts, if-then-else, negation, indexing, efficiency, optimization; extra-logical predicates, input-output.

**A számonkérés és értékelés rendszere angolul:**

continuous assessment, examination

**Idegen nyelven történő indítás esetén az adott idegen nyelvű irodalom:**

Text book, compulsory:

- Ásványi Tibor: *Logic programming and Prolog*, in *Advanced Programming Languages*, (Ed. by Nyékyné Gaizler Judit) Budapest: Eötvös Loránd Tudományegyetem, 2014. pp. 932-1011. (ISBN:978-963-284-450-3)
- Markus Triska: The Power of Prolog (<https://www.metalevel.at/prolog>, 2005-2018)

Proposed further reading:

- Sterling, Shapiro: *The Art of Prolog* (The MIT Press, 1994).
- Clocksin, Mellish: *Programming in Prolog: Using the ISO Standard* (Springer, 2005).