

Frontiers in Computer Science

Lecturer: Savostyanov Alexander, Ph.D.

Semester: 3 **Duration:** 18 weeks

Workload (h): 72 **Presence (h + CH):** 32 (4) **Self-Study (h):** 36

Contents:

Background and relations to other courses: Philosophy of Computer Science

Main topics and learning objectives:

1. Общая теория самоуправляемых систем. биохимических и нейробиологических данных.
2. Информатика и разработка самоуправляемых машин.
3. Information theory and its applications in messages encoding.
4. Компьютерный анализ биологической информации. Обработка генетических, биохимических и нейробиологических данных.
5. Informatics and video games. Video games in education and medicine.
6. Internet for people communication.
7. Artificial intelligence and cognitive science problem.
8. Summary.

Assessment:

Formative: in interaction with lecturer and tutor during learning period. On site, skype, email are preferable.

Summative:

Number and Type; Connection to Course	Duration	Part of final mark in %
Pass Test	90 min	100%

Learning outcomes:

Academic: To know the relationship between the fundamental problems of the theory of information and the development of applied fields of information technology and computer technology, to know current development trends of computer science in the near future.

Prerequisites for Credit Points: The credit points will be granted when the course has been successfully completed, i.e. all parts of the examination are passed.