

Course title: High Performance Computing

Institute/Division: F-3, Institute of Computer Science

Course code: F34-HPC

Erasmus subject code: Informatics, Computer Science

Number of contact hours: 45 hours

Course duration: 1 semester

ECTS credits: 6

Course description: Architectures for high performance computing - processors, parallel systems. OpenMP, MPI, Classical and parallel optimization. Basis of the x86 assembly language. Parallel algorithms for linear algebra and PDE simulation, GPGPU OpenCL/CUDA computations.

Literature:
L. Ridgeway Scott, Terry Clark, Babak Bagheri, „Scientific Parallel Computing”, Princeton University Press, 2005
Kevin Dowd, Charles Severance, "High Performance Computing", 2nd ed., O'Reilly, 1998.

Course type: Lectures and laboratory classes

Assessment method: Attendance, evaluation of every laboratory, exam

Prerequisites: Advanced C or C++ programming language, Basic parallel/concurrent programming. Basic knowledge of Linux operating system.

Primary target group: 3-rd – 4-th year computer science students

Lecturer: Filip Kružel, MSc

Contact person: Filip Kružel, MSc
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Deadline for application: 15th January

Remarks: The course will start for at least 7 foreign students