

Course title:	Parallel and Distributed Programming
Institute/Division:	F-3, Institute of Computer Science
Course code:	F34-PDP
Erasmus subject code:	Informatics, Computer Science
Number of contact hours:	45 hours
Course duration:	1 semester
ECTS credits:	6
Course description:	History of parallel and distributed computing. Operating system's foundations: processes, threads. POSIX Threads in C language. Concurrency and parallel programming models. Programming shared memory systems: data dependencies and OpenMP specification. Vectorization and basic assembly code. Programming of distributed memory systems: message passing paradigm, MPI specification, group communication. Accelerators programming - CUDA/OpenCL.
Literature:	G. Coulouris et al., "Distributed Systems. Concepts and Design" (4th ed.), Addison Wesley, 2005A. S. Tanenbaum, "Distributed Systems. Principles and Paradigms" (2 nd ed.), Prentice Hall 2002 Grama A. et al., „Introduction to Parallel Computing" (2 nd ed.), Addison-Wesley, 2003
Course type:	Lectures and laboratories
Assessment method:	Attendance, evaluation of small projects, exam
Prerequisites:	Advanced C or C++ programming language, Basic knowledge of Linux operating system.
Primary target group:	3-th – 4-th year computer science students
Lecturer:	Filip Kružel, MSc
Contact person:	Filip Kružel, MSc, fkruzel@pk.edu.pl
Deadline for application:	15th of September