

Introduction to Parallel Programming (1DL530)

Period 1 - 5 credits

Course Information

- This year the course will be held online.
- Current schedule:
 - 11 or 12 lectures
 - 4 labs
- Lecturer:
 - Kostis Sagonas (Hus 1, 352) kostis@it.uu.se
- Assessment
 - Four assignments (can be done in pairs) and
 - Take-home exam

Course Topics

- Concurrency and Parallelism
 - Basic concepts, differences, issues involved, etc.
- Shared-memory concurrency
 - Threads and locks, data races, deadlocks, fairness
 - Synchronization mechanisms
 - Programming with Pthreads
- Fork-join parallelism
 - Programming with OpenMP
- Task parallelism & data parallelism
- Distribution with message-passing
 - Programming with MPI