

Lecture	Topic	Chapter(s)
1	Introduction Basics of C++ Strings Looping	1 & 2
2	Monte Carlo methods Random numbers Containers Functions	3 & 4
3	Iterators Lists library algorithms	5 & 6
4	N-body simulations Structs Generic functions	8
5	Classes Operator overloading Introduction to CMake	9
6	Shared memory parallelism execution policies	–
7	Asynchronous programming	–
8	Bond-based peridynamics (Course project)	–
9	Linear Algebra using Blaze	–
10	Solvers Conjugate gradient method	–
11	Introduction to parallel programming I (Dr. Kaiser)	–
12	Introduction to HPX	–
13	One-dimensional heat equation	–
14	Tricks with notebooks (Dr. Brandt)	–
15	Futurization of the heat equation	–
16	Serial partition-based 1D heat equation	–
17	Time for questions and discussion	–
18	Midterm exam	–
19	Parallel partition-based 1D heat equation	–
20	Preparation for distributed computing	–
21	Distributed implementation of the 1D heat equation	–
22	Distributed implementation of the heat equation I	–
23	Distributed implementation of the heat equation II	–
24	Managing memory and low-level data structures	10
25	Implementing a single-linked list	–

This work is licensed under a Creative Commons “Attribution-NonCommercial-NoDerivatives 4.0 International” license.

