

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	–
G1	Introduction to parallel programming I (Dr. Kaiser)	–
11	Introduction to HPX	–
Q1	Time for questions and discussion	–
	Midterm exam	–
G3	Tricks with notebooks (Dr. Brandt)	–
12	One-dimensional heat equation	–
13	Futurization of the heat equation	–
14	Serial partition-based 1D heat equation	–
15	Parallel partition-based 1D heat equation	–
16	Preparation for distributed computing	–
17	Distributed implementation of the 1D heat equation	–
18	Distributed implementation of the heat equation I	–
19	Distributed implementation of the heat equation II	–
20	Managing memory and low-level data structures	10

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