

Programming Parallel Computers

Jukka Suomela · Aalto University · ppc.cs.aalto.fi

Part 1B:
Course practicalities

Course workload & activities

- Intensive course, 6 weeks
- 5 credits / 6 weeks \approx **22 hours of work per week**
- **Lectures:** Monday
- **Exercise sessions:** Tuesday & Friday
- **Discussions:** every day on Slack
- **Deadline for exercises:** **Sunday at midnight**

**Exceptions
around
Easter &
May 1st**

Prerequisite test

- If you haven't solved it yet, do it now!
- Deadline: *Friday at noon*
- No way to pass the course if you miss the deadline
- Can't start to solve exercises before passing it

Passing the course

- Only one required part: *solve weekly exercises*
- Grading determined by what you have submitted to your personal GitHub repository at the end of each week
 - you will get access to your personal GitHub repository soon after passing the prerequisite test
- See the course web page for details: *ppc.cs.aalto.fi/2020/*

Exercises

- You can solve whichever exercises you want, in any order
 - what matters is the number of points that you get
 - 64 points: **grade 5/5**
 - 38 points: **grade 1/5**
- *“Recommended path”*
 - follow it and you will get up to 77 points
- *“Challenging exercises”*
- *“Contest”*
 - extra points if your solution is among the fastest solutions this year!

Exercises

- **Preliminary grading** (during week x):
 - **you** run a grading script and submit the result to GitHub
- **Final grading** (during week $x + 1$):
 - **course assistants** give feedback on your solution via GitHub
 - submissions not following rules will get rejected
- Resubmissions **during** the course are always fine, always safe
 - resubmission during week x graded just like any other submission during week x
- Nothing can be submitted or resubmitted **after** the course

Computers

- You must test & benchmark your code using one of the Linux computers in classrooms *Maari-A* or *Maari-B*
 - you can access the computers **remotely via ssh**
- It is *your responsibility* to find a computer that is available and that you can use
 - **very bad idea:** leaving it for the very last minute before the deadline
 - **much better idea:** finishing everything that you need to do on Friday during the exercise session

Exercise sessions

- One-to-one help is available during the exercise session
 - both through **Slack** and **Zoom**
- You can take part in 0, 1, or 2 exercise sessions per week

Collaboration rules

- You are **encouraged to discuss solution ideas** with other students and the course staff, but ***code that you submit must be written by yourself***
- You can **use ideas that you find online**, but you are ***not allowed to copy source code***

**Ask if
unsure!**

Important pointers

- **Material:** ppc.cs.aalto.fi
- **Exercises, rules, practicalities:** ppc.cs.aalto.fi/2020/
- **Slack:** aaltoppc2020.slack.com
 - you can join with your Aalto email address
 - you should be there right now
- **GitHub:** github.com/cs-e4580-2020

Course staff

- **Teacher:**
 - Jukka Suomela
- **Teaching assistants:**
 - Juho Kahala
 - Henrik Lievonen
 - Jussi Ritvas
 - Thomas Spilsbury
 - Ivan Yashchuk

**Primary contact:
ask on Slack!**

Schedule

- Weeks 1–3: CPU programming
- Weeks 4–6: GPU programming

Checklist for this week

- **Registration** in Oodi
- **Prerequisite test**
- Join our **Slack** chat, follow it
- Make sure you have got access to your **GitHub repository**
- Solve **exercises** CP1 & MF1
- Run grading tool, **submit** solution to GitHub

```
cd cp1
editor cp.cc
make -j
./grading test
./grading benchmark
./grading do
./grading show all
git add cp.cc submission-1.txt
git commit
git push

git pull
./grading show all
```

Develop solution
to task **CP1**
during **week 1**

Preliminary
self-service
grading

Receive feedback & final
grading during **week 2**