COMP35112 Chip Multiprocessors

Logistics

Pierre Olivier and Pavlos Petoumenos
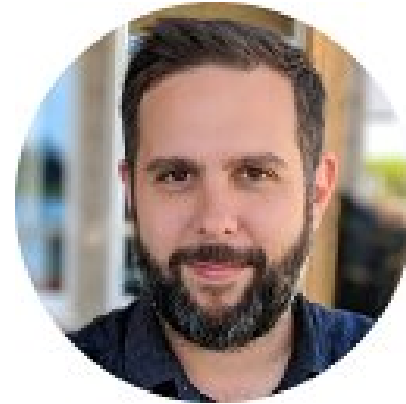
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The University of Manchester

Instructors

Pierre Olivier

From 29/01 to 08/03
pierre.olivier@manchester.ac.uk

Pavlos Petoumenos

From 11/03 until the end in May
pavlos.petoumenos@manchester.ac.uk

Course Website

Everything centralised on Blackboard:

Schedule, synchronous/asynchronous materials, lab instructions, etc.

https://bit.ly/comp35112

Assessment

Final grade divided into:

- **70% final exam**
- **30% coursework: summative lab exercises**
  - 3 lab exercises, each weighting 10% of final mark

Course Schedule

- A typical week:
  - **Live session** on Monday 10am-11am
    - In *Simon Building Lecture Theatre A*
  - **Asynchronous content** to do at home during the week: video(s), quiz (formative) after attending the live session
  - **Drop-in office hours**: Every Friday 9am-10am
    - In *IT 204 (Pierre's office)* or/and *IT 202 (Pavlos' office)*
- Lab weeks (13/02, 20/02, 05/03, 12/03, 16/04, 23/04):
  - **Lab session** Tue. 4pm-6pm in Kilburn 1.8
- Check details of the schedule for each week on the [Blackboard's schedule page](#)

Asynchronous Content

- **Videos**
- **Quizzes** (formative assessments)
- All available on Blackboard, check the schedule to know what to do each week

Lab Assignments

- To be done during lab sessions, finish at home if needed
- 3 exercises, subjects are/will be published on Blackboard
    1. **Delivering speedup for vector addition**
        - Deadline 23/02/24 6pm
    2. **Synchronisation: the dining philosophers problem**
        - Deadline 15/03/24 6pm
    3. **Relaxation** (to solve Poisson's equation)
        - Deadline 26/04/24 6pm
- Submission method: on GitLab https://gitlab.cs.man.ac.uk/
    - 1 repository per project, use a specific tag on the master branch to indicate submission
    - Further details in lab subjects

Required Software

- To complete lab assignments, **need a Linux distribution with a recent GCC/G++ (~v11, default in Ubuntu 22.04)**
  - Department's machines (explicitly use the command `gcc-11`, as `gcc` defaults to 9, same for `g++`)
    - Connect remotely to Dept. machines: https://bit.ly/3Ei1NLI (requires VPN outside of campus)
  - Your own machine:
  - Run Linux natively if you know what you are doing
  - Run Linux in a virtual machine (make sure to give it several cores)

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  - Run Linux in a virtual machine (make sure to give it several cores)
- You'll get access to a **high-core count machine** (48 cores) to test your programs at scale: *mcore48*
  - Works with a job queue system to avoid multi-tenant disturbances
    - Connection and usage instructions with the lab subjects
      - Requires VPN outside of campus

Reading List

- Highly Recommended: **Computer Architecture: A Quantitative Approach**, *J.L. Hennessy and D.A. Patterson*, 4th Edition, Morgan Kaufman, 2007. In particular chapters 1 and 4.
- Others: check on *Blackboard -> Course Content -> Reading List* (some/most of this material goes beyond what we cover in the lectures)
  - https://bit.ly/3vNQPvg

Discussion Board

- On Blackboard "Discussion Board" on the left menu:
  https://bit.ly/comp35112-discussion
- Feel free to create new threads
  - Don't post answers there!

Drop-in Office Hour Sessions

- 1 on 1 meetings with the instructor or a TA
- Optional, come if you have questions about **anything** related to the course
- Every Friday 9am
  - Pierre's office: IT 204
  - Pavlos' office: IT 202

Attending Live & Lab Sessions

- **Benefits of physically attending the live sessions:**
  - Ask questions and interact with the instructor
  - Participate in the interactive activities
  - Things will come back much more easily when revising
- **Benefits of physically attending the lab sessions:**
  - Time scheduled for you to complete the summative exercises
  - Ask questions/interact with TA and instructor
- **General benefit of physical presence:**
  - We see your face and remember your engagement

How to get help?

How to Get Help

- Any question? By increasing order of urgency:
  - Step 1: Come to the next office hour
  - Step 2: Discussion boards
  - Step 3 (only if urgent!) contact the instructors:
    - pierre.olivier@manchester.ac.uk,
    - pavlos.petoumenos@manchester.ac.uk