FILL OUT THIS DOCUMENT AND ATTACH THE PDF VERSION TO YOUR APPLICATION.

Let’s discover the Master in High Performance Computing (MHPC) of the University of Luxembourg. The purpose of this document is to help us assess your background, and for you to better understand the prerequisites and the MHPC in general. Don’t forget to submit the PDF version of this document when applying, and any document supporting your answers (type NA if you do not know or do not wish to answer a question).

**About you**

1. What is your rank in your previous study? (e.g. 23/55)
2. What is the course of semester 1 that you are the most excited about?
3. What is the course of semester 2 that you are the most excited about?
4. What is the course of semester 3 that you are the most excited about?
5. Do you know the Master in HPC is a full-time program with a heavy workload?

**About your previous university (in case of several diplomas, take the most relevant experience, you can answer those questions for the others in your CV)**

1. What is its “Times Higher Education” rank? (<https://www.timeshighereducation.com/world-university-rankings/2024/world-ranking>)
2. What is its “Shanghai ranking”? (<https://www.shanghairanking.com/>)
3. If any, what is the national ranking?
4. What is the average/best GPA (or grade) of the students graduating in your discipline at the same university?
5. What is the minimum GPA (or grade) required to graduate?

**Requirements**

**The Master in HPC is a full-time program with a heavy workload and a lot of coding projects.**

Let’s review together some of the requirements of the program. List the courses you took in your previous education in which you studied similar topics. If you lack knowledge in either of those topics, give a reference to an online course/book/resource you commit to study before the Master starts.

* **Mathematics**: Basics of set theory, first-order logic, analysis, algebra (especially linear algebra).
  + Relevant courses in your education:
  + Missing background, how to catch up:
* **Programming**: Python and C++ (at least C++ introductory course and a coding project).
  + Relevant courses in your education:
  + Missing background, how to catch up:
* **Algorithms**: Standard data structures including dynamic array, linked list, tree, hash table and graph. Standard algorithms such as sorting, searching and tree/graph traversal.
  + Relevant courses in your education:
  + Missing background, how to catch up:
* **Operating system**: Basics of Linux command line, notions of processes and threads.
  + Relevant courses in your education:
  + Missing background, how to catch up:
* **Networking**: Basics of TCP/IP, client-server programming with sockets.
  + Relevant courses in your education:
  + Missing background, how to catch up:

*Note that we do not require prerequisites for courses relevant to artificial intelligence. We offer introductory courses on machine learning and combinatorial optimization.*