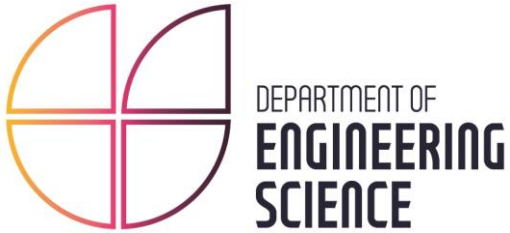

An Introduction to HPC and Scientific Computing

Wes Armour

Oxford e-Research Centre,
Department of Engineering Science

Locations and Timetable

Locations

Lectures will be in LR6
Practical sessions will be in the Linux Lab

Timetable

09:30 - 10:30 Morning lecture
10:30 - 11:00 break
11:00 - 12:30 Morning practical

12:30 - 13:30 lunch

13:30 - 14:30 Afternoon lecture
14:30 - 15:00 break
15:00 - 16:30 Afternoon practical

Lectures will be delivered by Wes Armour, Ian Bush, Karel Adamek.

Practical's supervised by Wes Armour, Ian Bush, Karel Adamek, Ania Brown and Jan Novotny.

Lectures

Monday - Here we have three lectures to begin with and finish with a practical session, this is because we'll need to introduce you to several different topics before you can complete a meaningful practical.

Morning lecture:	Introduction to computer architectures.
Morning lecture:	Introduction to the C programming language.
Afternoon lecture:	Introduction to Linux, compilers and build systems.

Tuesday

Morning lecture:	Using repositories and good coding practices.
Afternoon lecture:	A deeper dive into C programming.

Wednesday afternoon

Afternoon lecture:	How to multi-task on CPUs using OpenMP.

Thursday

Morning lecture:	An introduction to the CUDA programming language.
Afternoon lecture:	Scientific Computing using the CUDA programming language part one.

Friday

Morning lecture:	Scientific Computing using the CUDA programming language part two.
Afternoon lecture: NVIDIA.	***Guest Lecture: Deep learning Demystified - Adam Grzywaczewski***

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Practical Sessions

Monday - Here we have one practical in the afternoon.

Afternoon Practical:	Linux, compiling C code and using Make.

Tuesday

Morning Practical:	Practical examples of using repositories for your projects.
Afternoon Practical:	Practical examples using the C programming language.

Wednesday Afternoon

Afternoon Practical:	Practical examples of using OpenMP on GPUs.

Thursday

Morning Practical:	Practical examples of the CUDA programming language.
Afternoon Practical:	Advanced examples of CUDA programming part one.

Friday

Morning Practical:	Advanced examples of CUDA programming part two.
Afternoon Practical:	Finishing up.