

COURSE DETAIL

HIGH PERFORMANCE COMPUTING

Country

United Kingdom - England

Host Institution

University of Bristol

Program(s)

University of Bristol

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Computer Science

UCEAP Course Number

142

UCEAP Course Suffix**UCEAP Official Title**

HIGH PERFORMANCE COMPUTING

UCEAP Transcript Title

HIGH PERFORM COMPUT

UCEAP Quarter Units

8.00

UCEAP Semester Units

5.30

Course Description

The course introduces and explores technologies relating to high performance computing, and it offers practical hands-on use of and experience with said technologies. Students learn how to develop fast, efficient applications on the very latest advanced processors, including many-core CPUs and GPUs. Students also have the opportunity to integrate content from other courses, for example implementing high performance parallel versions of algorithms previously encountered. Students are exposed to the underlying trends in computer hardware that are driving development towards massive parallelism in hardware and software. They employ widely used parallel programming languages and tools, such as OpenMP, MPI, OpenCL, debuggers and profilers, all in the context of a real supercomputer environment: the university's Blue Crystal cluster.

Language(s) of Instruction

English

Host Institution Course Number

COMS30053

Host Institution Course Title

HIGH PERFORMANCE COMPUTING

Host Institution Course Details

<https://www.bris.ac.uk/unit-programme-catalogue/UnitDetails.jsa?ayrCode=26%2F27...>

Host Institution Campus

Host Institution Faculty

School of Computer Science

Host Institution Degree

Host Institution Department

Course Last Reviewed

2025-2026

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