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Opinion - New developments in teaching grid computing across North Carolina

Grid computing is now part of the curriculum, thanks to a distributed grid computing course run by the University of North Carolina at Charlotte.

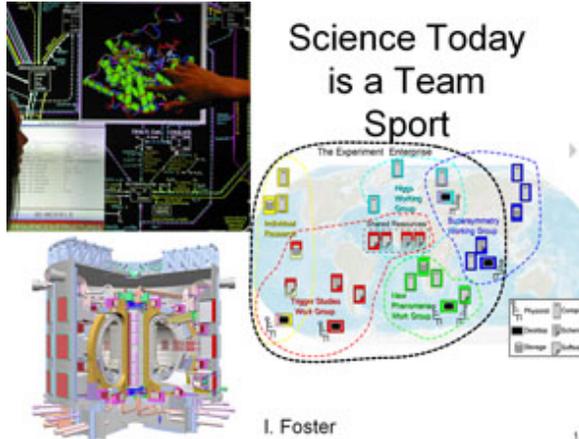
The course was first taught in 2004, then again in 2005 and 2007, involving the creation of a virtual organization and the broadcast of lectures across the state using the North Carolina Research and Education Network. A total of 90 students distributed across 14 institutions have so far been involved.

In with the new

In 2007, we taught the course for a third time, adopting a new approach.

Previous courses had employed a bottom-up perspective, where students began with low-level details before moving to higher-level tools.

Our revised course reversed this, beginning with more complex interfaces, such as the [Gridsphere](#)-based portal to access grid resources and the [PURSe](#)-based registration portlet. We also increased the number of hands-on assignments to seven, including an assignment to create, build, deploy and use a portlet inside a portal container installed by the students. We also introduced a team project, to include more on high-level grid computing interface design. All this was to be achieved within the 15-week semester.



A slide from a presentation by Ian Foster given as part of the [2005](#) grid computing course, *Image courtesy of Ian Foster*



The University of North Carolina grid computing course runs over 15 weeks and uses a distributed framework to teach grid computing to students across the state. *Image courtesy of the University of North Carolina*

computing was very positive. Students handled the software installation processes well

Distributed teamwork

The team project, new for 2007, tasked teams of three with creating a new grid computing assignment that built upon the previous in-class assignments. The assignment needed to involve the creation of a grid computing application combined with a graphical interface.

Expert guests working on real-world grid projects also presented their projects, giving students an appreciation that grids are more than just experimental systems.

Our experience with this revised approach to teaching grid

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and appreciated being able to do exercises at home. Our goal for this course is to further remove the low-level details of working with a grid and move closer to working only with high-level tools.

The grid computing course was supported by the National Science Foundation and the [University of North Carolina](#) Office of President from 2004 to 2007. The course will be offered again in Fall 2008.

- [Clayton Ferner](#) and [Barry Wilkinson](#), University of North Carolina

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