

**CFD WITH OPEN SOURCE SOFTWARE
 -- A COURSE WHERE THE STUDENTS BECOME TEACHERS AND CONTRIBUTE TO
 GLOBAL LEARNING**

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The course “CFD with OpenSource Software” is open to PhD students from all over the world, and master students at the end of their master education at Chalmers (http://www.tfd.chalmers.se/~hani/kurser/OS_CFD/). It has been given 9 times, yearly from 2007. A main learning outcome of the course is to develop skills in the use and modification of open source software for computational fluid dynamics. It is divided into two main parts. The first part is an intense learning period, to give the students the tools and skills they need for the second part. It is scheduled during the first three weeks of the course, with two full days per week. Before the second and third occasions, the students do assignments that support the learning process. The purpose with that schedule is that students from far distance can stay at Chalmers during that entire period (e.g. from USA, Singapore, Japan), and students from mid-distance can commute to each two-day session (e.g. Europe). The second part of the course comprises an advanced project in line with the student’s own research, upcoming master thesis, or special interest, using the tools and skills from the first part. The outcome of this project should be a tutorial that is presented at the end of the course and forms a part of the course itself. The tutorials are peer-reviewed by another student and by a course assistant before it is distributed through the open course homepage for anyone to learn from. Given that the very skilled students have very different research areas and special interest, the final scope of the course becomes much wider than any teacher would be able to handle. It even contributes to the learning of new application areas for the teacher. The distribution of the final tutorials (102 until today) makes the global impact much wider than the students that actually attend the course. The course homepage of each year is visited by about 20000 individual visitors from 120 countries. Many people from all over the world send e-mails thanking for making this material available, and it is the student tutorials that continuously extend the scope of the course material and makes the course of higher interest.

The presentation will further describe the pedagogic design of the course, and give examples of the outcomes of the course. A hope is that feedback from the audience can give new ideas how to further improve the course. There are e.g. requests that the course should be given on-line, and a discussion regarding pros and cons with regard to that is welcomed.

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