

## Course discussion in Fluid mechanics, MO5001, ht 2019

The discussion was held by Jonas Nycander, Dhrubaditya Mitra (with Åsa Larson present), 200129. Notes by Jonas and Åsa.

- *Course content:* For the second-year students, who had not taken vector analysis, the level was too high from the beginning, and they quickly dropped out. For most of the remaining students the course was going too fast, and had too much material. It was hard to get a coherent picture of all the material. It was interesting to see how the math can be applied in physics. One thing that could be dropped is the tensor analysis and index notation, since it was not used much in the rest of the course.
- *Lectures:* Good. The 5-minute quizzes that were given in the first part of the course were very useful. It was hard to prepare for the lectures in the first part of the course. The videos were nice, but sometimes disconnected from the lectures.
- *Problem sessions:* First part of the course: The students thought that there were too many homework problems, and that they took too much time. One problem per week is enough. It would also be good to have other, simpler problems to practice on. It would also be good to get the correct solutions more quickly. The teacher often did not show complete solutions of the problems. Second part of the course: good. But it would be better with a hard deadline after one week, and to get the correct solutions then.
- *Lab:* The lab was really good.
- *Literature:* The book by Lautrup was thick and expensive, but useful. The written lecture notes and the book by Vallis were good.
- *Most interesting item:* The connection with ocean circulation.

## Proposed improvements

The course must be made easier, and there should be less material. If it will still be given for second year students, there must be a much more extensive introduction to vector analysis. But perhaps it should be changed to a master course. These changes will be discussed soon.