

Guidelines for the Final Exam

The final exam will be held on Thursday, March 20th, in MEB 235 from 8:30 to 10:20. The sections of the text and corresponding topics for the exam will include:

- vorticity (§ 6.1.3).
- stream function (§ 6.2.3)
- Bernoulli's equation, irrotational flow, velocity potential (§ 6.4)
- line vortex (§ 6.5.3); irrotational flow around a cylinder (§ 6.6.3)
- finite-difference approximations to derivatives; order of accuracy
- finite-difference approximations to differential equations; order of accuracy; stability
- turbulent jets
 - general characteristics
 - self-similarity
 - constancy of momentum flux
 - entrainment
 - turbulence modeling
- turbulent heat and mass transfer
 - averaged equations for \bar{T} and $\overline{T'^2}$
 - application to turbulent jets; self-similarity
 - turbulence modeling

The exam will stress what was covered in class and in the homework. For the exam students are allowed to use the course textbook by Munson et al., the course class notes, the course homework, and a hand calculator (for simple arithmetic calculations).