Course Syllabus: CMGP 11 Fluid Mechanics

Instructors: Dr. J. Chahed, Dr. Guellouz, Dr. S. Kaddeche

Course Outline:

1. Fluid kinematics
2. The Navier-Stokes equations and exact solutions
3. Incompressible inviscid flow
4. Boundary-layer theory
5. An introduction to hydrodynamic stability

Course Offering:

Quarter 2 of each academic year (Required Course; 45 hours total; 4.5 Credit hours)

Course Grade: Homework (30%); Exam (70%)

References:

- Batchelor, G.K, "An Introduction to Fluid Dynamics", Cambridge University Press, 1999.
- Panton, R.L., "Incompressible Flow", Wiley, 2nd Ed., 1996.
- Schliching, H. and Kestin, "Boundary Layer Theory, 7th Edition", McGraw Hill, 1979.
- Karamcheti, K., "Principles of Ideal-Fluid Aerodynamics" Krieger Publishing Company, 1980