Bibliography of Fluid Dynamics Books

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Introduction

This literature search was performed for Dr. David Muraki's "MATH462: Introduction to fluid dynamics" course during the spring of 2002. The list was compiled by searching for online reference lists in areas relating to fluid dynamics. The most commonly occuring references were combined with some suggested by SFU professors David Muraki and Steve Ruuth. Several hours were also spent scouring the shelves of the SFU library.

The List

The Classics

1. Batchelor, G.K. *An Introduction to Fluid Dynamics.*
(In SFU library)

2. Landau, L.D.; Lifschitz, E.M. *Fluid Mechanics*, 2nd ed. Volume 6 of Course of Theoretical Physics.
(In SFU library)

3. Lamb, S.H. *Hydrodynamics*, 6th ed. New York: Dover, 1945.
(In SFU library)

4. Sommerfeld, A. *Mechanics of Deformable Bodies.* New York: Academic Press, 1950. 396 p. Vol. 2 of Lectures on Theoretical Physics. $78.
(In SFU library)

5. Stoker, J.J. *Water waves: the mathematical theory with applications.* New York: Interscience Publishers, 1957.
(In SFU library)

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Introductory Texts

6. Acheson, D.J. *Elementary Fluid Dynamics.* Oxford, England: Oxford University Press, 1990.
   Course text for MATH462. (In SFU library)

7. Meyer, R.E. *Introduction to Mathematical Fluid Dynamics.* New York: Dover, 1982.
   Seems very similar to Acheson. (In SFU library)

8. Patterson, A.R. *A First Course in Fluid Dynamics.* Cambridge University Press 1983 (1992 printing).
   Used by many introductory fluids courses. (In SFU library)

9. Faber, T.E. *Fluid Dynamics for Physicists.* New York: Cambridge University Press, 1995.
   (In SFU library)

10. Lighthill, M.J.S. *An Informal Introduction to Theoretical Fluid Mechanics.* Oxford, England: Oxford University Press, 1986.
    (Not in SFU library)

11. Kundu, P.K. *Fluid mechanics.* San Diego: Academic Press, 1990.
    On reserve for MATH462. (In SFU library)

12. Sabersky, R.H.; Acosta, A.J.; Hauptmann, E.G. *Fluid Flow: A First Course in Fluid Mechanics*, 3rd ed. New York: Macmillan Publishing Company, 1989.
    (Not in SFU library)

Commonly Referenced Texts

13. Chorin, A.J.; Marsden, J.E. *A Mathematical Introduction to Fluid Mechanics*, 3rd ed. New York: Springer-Verlag, 1993.
    The analysts' book of choice. (In SFU library)

14. Shapiro, A.H. *The Dynamics and Thermodynamics of Compressible Fluid Flow*, Vol. 1 and Vol. 2. New York: Wiley, 1953.
    (In SFU library)

15. Tritton, D.J. *Physical Fluid Dynamics*, 2nd ed. Oxford, England: Oxford University Press, 1989.
    An advanced overview. (Not in SFU library)

16. van Dyke, M. *An Album of Fluid Motion.* Stanford, CA: Parabolic Press, 1982.
    Contains many beautiful images illustrated fluid flow. (Not in SFU library).

17. Tietjens, O.K.G. *Applied hydro- and aeromechanics: based on lectures of L. Prandtl.* New York: Dover Publications, [1957].
(In SFU library)

Modern Classics

18. Ockendon, H.; Ockendon, J. *Viscous Flow.* Cambridge University Press, 1995
(In SFU library)

19. Saffman, P.G. *Vortex Dynamics.* Cambridge Univ. Press, 1992.
(Not in SFU library)

Specialized Texts

20. Lighthill, M.J.S. *Waves in fluids.* Cambridge [Eng.]; New York: Cambridge University Press, 1978.
(In SFU library)

21. Tennekes, H.; Lumley, J.L. *A First Course in Turbulence.* MIT Press.
(Not in SFU library?)

22. Frisch, U. *Turbulence: The Legacy of A.N. Kolmogorov.* Cambridge Univ. Press, 1995.
(In SFU library)

23. Rosenhead, R. *Laminar Boundary Layers: an account of the development, structure and stability of laminar boundary layers in incompressible fluids, together with a description of the associated experimental techniques.* Oxford Univ. Press, 1963.
(In SFU library)

24. Greenspan, H.P. *Theory of Rotating Fluids.* Cambridge Univ. Press, 1968.
(In SFU library)

25. Schlichting, H.; Gersten, K. *Boundary-Layer Theory.* Springer, 2000.
(In SFU library)

26. van Dyke, M. *Perturbation Methods in Fluid Mechanics.* Academic Press, 1964.
(In SFU library)

27. Chandrasekhar, S. *Hydrodynamic and hydromagnetic stability.* Oxford: Clarendon Press, 1961.
(In SFU library)

28. Drazin, P.G.; Reid, W.H. *Hydrodynamic Stability.* Cambridge Univ. Press, 1982.
(In SFU library)

Computational Fluid Dynamics (CFD)

29. Hirsch C. *Numerical Computation of Internal and External Flows*, Vols. 1 and 2. John Wiley & Sons, 1990.
(Not in SFU library)

30. Laney, C. *Computational Gas Dynamics.*
Highly recommended by Dr. Steve Ruuth. (Not in SFU library)

31. Durran, D.R. *Numerical methods for wave equations in geophysical fluid dynamics.* New York : Springer, c1999.
(In SFU library)

32. von Wendt, J.F. (Ed.). *Computational Fluid Dynamics: An Introduction.* New York: Springer-Verlag, 1996.
(In SFU library)

33. LeVèque, R.J. *Numerical Methods for Conservation Laws*, 2nd ed. Basel; Boston: Birkhäuser Verlag, 1992.
(In SFU library)

34. Canuto, C.; Hussaini, A.; Quarteroni, A.; Zang, T.A. *Spectral Methods in Fluid Dynamics*, Springer series in computational physics. Berlin; New York: Springer-Verlag, c1988.
(In SFU library)

35. Warsi, Z.U.A. *Fluid Dynamics: Theoretical and Computational Approaches.* Boca Raton: FL: CRC Press, 1993.
(In SFU library)