Some Literature for the Course
Locally Convex Vector Spaces

Disclaimer: This is a very preliminary list which is far from being complete and of course matter to my personal taste.

1. Alexandre Grothendieck, *Topological Vector Spaces* (Gordon and Breach, New York, 1992, 3rd edition, unchanged translation of the French edition of 1954).
   Written by *the* main figure of the field. The text is not as well-organized as the other classics hence not too easily accessible.

2. John Horváth, *Topological Vector Spaces and Distributions. Vol. I* (Addison-Wesley Publishing Co. Reading, MA, 1966).
   This book first introduces the theory of locally convex spaces and then develops the theory of distributions with this background available. A very careful and readable text—a real shame that Vol. II never appeared.

3. Gottfried Köthe, *Topological Vector Spaces I, II* (Springer, New York 1969, 1979).
   The classic German text on the subject which later on was translated into English. Very detailed and very comprehensive.

4. Hans Jarchow, *Locally Convex Spaces* (B.G. Teubner, Stuttgart, 1981).
   By some 15 years younger as compared with some of the classical texts this book offers some shift of emphasis (which is mostly felt in the more advanced parts of the text). A systematic, precise and comprehensive book.

5. A.P. Robertson, Wendy Robertson, *Topological Vector Spaces* (Cambridge University Press, New York 1964).
   A remarkably short text which nevertheless covers all important aspects of the theory of locally convex vector spaces in a very accessible way.

6. Helmut Schaefer, *Topological Vector Spaces* (Springer, New York, 1966).
   One of the classic texts. Rather terse but very reliable and widely used.

7. Françios Trèves, *Topological Vector Spaces, Distributions and Kernels* (Academic Press, New York, 1967). (also available as a unchanged reprint by Dover, Mineloa, NY, 2006.)
   A very practically oriented book. Besides introducing the main theoretical concepts it provides a wealth of examples.

8. Dietmar Vogt, Reinhold Meise, *Einführung in die Funktionalanalysis* (Vieweg, Wiesbaden, 1992), German.
   This introductory text on functional analysis contains a substantial part on the theory of locally convex vector spaces. It is precise and nicely written and also offers some goodies not easily available elsewhere. The most recent text in the list.

Roland Steinbauer, October 2008