Part IX : The annotated bibliography
Module 1 : Supplementary information

1 Texts for phase transformation courses

Phase transformations are an important area of study; there are many wonderful textbooks and monographs that are available. As noted in the modules, the primary texts that we recommend are those of Porter, Easterling and Sherif, and Raghavan. For a beginner’s course, these two textbooks are quite good.

In addition, we have also listed several additional texts; wherever possible, we have also indicated their level of difficulty, namely introductory, intermediate and advanced. Note that in our classification, Porter et al and Raghavan will be considered as intermediate textbooks.

Finally, we have also listed some advanced texts and monographs. Some of the additional texts and advanced monographs deal not only with phase transformations and physical metallurgy but also with thermodynamics and diffusion which form the basis for a detailed discussion on many fundamental aspects of phase transformations.

The listing here is not exhaustive; it is also heavily influenced by our tastes and interests; and, we would love to hear from you of any texts which you think should be listed here that we have not.

There are not many textbooks that we are aware of, on phase transformations, that deal with the heat treatment aspects in any greater detail.

2 Primary Texts for the Course


2.1 Additional Texts

4. P Haasen Physical Metallurgy Third edition, Cambridge University Press, 1996. Advanced textbook; a very concise introduction to many topics; the reader who is familiar with the material will benefit.

Advanced Texts

8. A P Sutton and R W Balluffi Interfaces in Crystalline Materials Clarendon Press, 1995. A classic; if phase transformations can be considered as the method of producing interesting interfaces in materials, this is the book that contains everything you need to know about interfaces. Fairly mathematical.
10. J A Dantzig and M A Rappaz Solidification First edition, EPFL Press, 2001. We have not dealt with solidification, probably one of the most important transformations, in this course, in any great detail. This is a good textbook for solidification theory. In the introduction, the authors also refer to other earlier textbooks.
12. W C Carter and W C Johnson The Selected works of John W Cahn TMS, 1998. J W Cahn is one of the pioneers in the study of materials and phase transformations. This is a good advanced level book with each paper prefaced by a commentary.

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