

EPSC 352: INTRODUCTION TO MINERALOGY GOOD BOOKS ON MINERALOGY, CRYSTALLOGRAPHY, AND CRYSTAL CHEMISTRY

Books

Berry, L.G.; Mason, B.; and Dietrich, R.V. 1983. Mineralogy--Concepts, Descriptions, Determinations. 2nd edition. San Francisco: Freeman.

Blackburn, W.H. and Dennen, W.H. 1994. Principles of Mineralogy. 2nd edition. Dubuque: Wm. C. Brown Publishers.

Bloss, F.D. 1971. Crystallography and Crystal Chemistry. New York: Holt, Rinehart and Winston, Inc. [Excellent on symmetry and crystal chemistry; great end-of-chapter problems and answers.]

Bragg, W.L. and Claringbull, G.F. 1965. Crystal Structures of Minerals. Ithaca: Cornell University Press. [Classic text on mineral structures, by one who knows them intimately! However, in some cases, line drawings of complex structures hard to envision.]

Buerger, M.J. 1956 (revised printing, 1963). Elementary Crystallography. New York: John Wiley.

Cepeda, J.C. 1994. Introduction to Minerals and Rocks. New York: Macmillan College Publishing Co. [Clear, concise; excellent tables; applied]

Cracknell, A.P. 1969. Crystals and Their Structures. New York: Pergamon. [Very good discussion of bonding forces.]

Deer, W. A.; Howie, R.A.; and Zussman, J. 1992. An Introduction to the Rock-Forming Minerals. 2nd edition. New York: Wiley. [Standard in the field, used by mineralogists and petrologists who investigate rocks in thin section.]

Dietrich, R.V. and Skinner, B.J. 1979. Rocks and Rock Minerals. New York: John Wiley and Sons. [Very useful abbreviated discussion of basic properties of rock-forming (and other important) minerals and the three major rock groups. Excellent illustrations and tabulations of fundamental data.]

Ehlers, E.G. 1972. The Interpretation of Geological Phase Diagrams. San Francisco: W.H. Freeman. [Excellent instructional book on the reading and use of geological phase diagrams.]

Evans, R.C. 1964. Crystal Chemistry. Cambridge: Cambridge University Press.

Frye, K., editor. 1981. The Encyclopedia of Mineralogy. Volume IVB of the Encyclopedia of Earth Sciences. Stroudsburg, PA: Hutchinson Ross Publ. Co. [Good overview of some interesting mineralogical topics, accompanied by short articles on those topics. In EPSc library, QE355.R6, shelved with the over-sized books under one of the windows.]

Frye, K. 1993. Mineral Science: An Introductory Survey. New York: Macmillan Publishing Co.

[Clear, concise, good diagrams]



Fyfe, W.S. 1964. Geochemistry of Solids. New York: McGraw-Hill. [Great little book; very informative and readable.]

Gay, P. 1972. The Crystalline State. Edinburgh: Oliver and Boyd. [Very good discussion of symmetry.]

Griffen, D.T. 1992. Silicate Crystal Chemistry. New York: Oxford University Press. [Detailed discussions, clear illustrations, good appendices, advanced level.]

Hammond, C. 1990. Introduction to Crystallography. Oxford: Oxford University Press. [Short, concise, well illustrated book about packing, lattices, and symmetry.]

Henry, N.F.M. and Lonsdale, K., eds. 1952. International Tables for X-Ray Crystallography. Vol. 1. International Union of Crystallography (Birmingham, England: Kynock Press). [Representations of all the space groups.]

Klein, C. and Dutrow, B. 2008. Manual of Mineral Science. 23rd edition. New York: John Wiley and Sons. [Textbook for this course; has accompanying CD]

Mandarino, J.A. and Back, M.E. 2004. Fleischer's Glossary of Mineral Species 2004. Tucson: The Mineralogical Record Inc. [List of all recognized mineral species; provides chemical composition, crystal system, earliest literature reference of each species.]

Nesse, W.D. 2000. Introduction to Mineralogy. New York: Oxford University Press. [Excellent, well-illustrated text. Covers most of the same topics as Klein. Lots of typos.]

Pellant, C. 1992. Rocks and Minerals [Eyewitness Handbooks Series]. New York: Dorling Kindersley, Inc. [Hand-specimen mineral identification. Good color photos/drawings.]

Perkins, D. 1998. Mineralogy. Upper Saddle River, NJ: Prentice-Hall. [Good, well illustrated book. Approaches mineralogy from viewpoint of rocks and rock-forming processes.]

Phillips, F.C. 1971. An Introduction to Crystallography. New York: John Wiley. [Discusses projection methods; good depth on symmetry and space groups.]

Putnis, A. and McConnell, J.D.C. 1980. Principles of Mineral Behaviour. Geoscience Texts, vol. 1. New York: Elsevier.

Read, W.T. 1953. Dislocations in Crystals. New York: McGraw-Hill. [Classic text; good drawings.]

Sands, D.E. 1969. Introduction to Crystallography. New York: W.A. Benjamin. [Introduces group theory.]

Zoltai, T. and Stout, J.H. 1984. Mineralogy--Concepts and Principles. Minneapolis: Burgess.

[High-level introductory book, uses different approach to classifying minerals and organizing them by structure.]