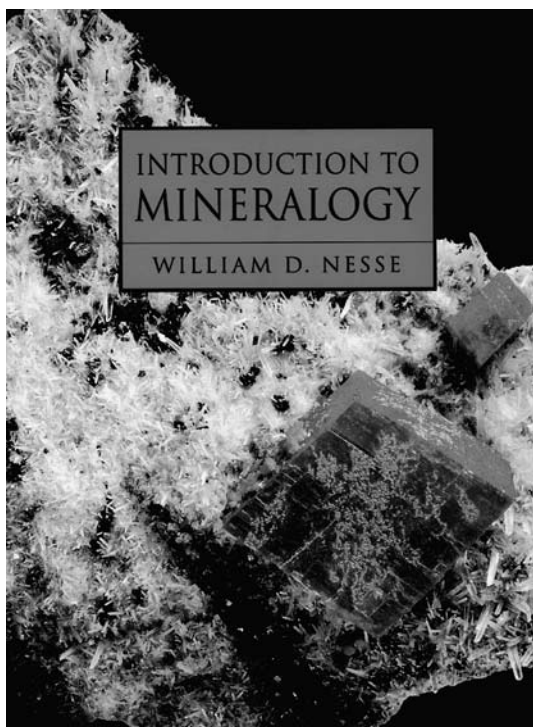


Introduction to mineralogy (2nd ed.), by W.D. Nesse, 2009. Oxford University Press, Oxford University Press, Great Clarendon Street, Oxford, OX2 6DP Great Britain (order through: bookshop.uk@oup.com). Paperback, 466 page. Price GBP 39.99; USD 129.00. ISBN 978-0-19-539114-5.



This book is a modern and very well edited introduction to mineralogy. It replaces the first edition that was published nine years ago; unfortunately, however, this new version has hardly been adapted and updated, which diminishes its value as a useful reference book for students and lecturers of various geoscience disciplines. The book aims at providing comprehensive information on mineral identification in order to learn and teach mineralogy by focusing on three main parts: (1) crystallography and crystal chemistry, (2) mineral properties, study and identification, and (3) mineral descriptions.

The first, 94-page part (Crystallography and crystal chemistry) deals with basic terminology, crystallography, crystal chemistry, crystal structure and crystal growth. This section begins with a restrictive definition of mineral, as “a naturally occurring crystalline solid with a definite, but not necessarily fixed chemical composition” and goes on with main aspects on crystallography (Bravais lattice, point

groups, space groups and crystals forms). It is followed by an outline on the elements’ atomic configuration and chemical bonding, a first-order control on mineral structure. This part ends with a chapter on crystal growth, covering the basics of thermodynamics and kinematics.

The second, 186-page part (Mineral properties, study and identification) focuses on minerals properties, basics of optical mineralogy, X-ray crystallography, chemical analyses and strategies for mineral study. These first four chapters describe the techniques used to study and identify minerals. The section on optical mineralogy is worthy of mention, as it describes in an easy but detailed way the optical properties of minerals to be recognized under the petrographic microscope, a basic tool for any geologist. The last chapter, although rather simple, describes the classical mineral-identification tactics that undergraduate students should know.

The third, 3003-page part of the book contains ten chapters and includes the description of more than one hundred common minerals. The mineral descriptions are according to the old Dana mineral classification, and the same standard format is used for each mineral. A crystal sketch of each mineral gives the main details of the crystal structure, composition, form, twinning, cleavage, colour, optical characteristics, alteration, distinctive features, occurrence and use. Sometimes brief comments on health risk, dating or even useful properties are provided to catch the reader’s attention. Included photomicrographs of mineral thin sections and 3-D structural sketches, representative for each mineral, facilitate comprehension of the text.

Last but not least, the appendices at the end of the book should be mentioned: (1) the effective ionic radii table of the elements, (2) mineral identification tables, (3) mineral associations, and (4) the periodic table of the elements. They might be regarded as useful material to be kept at hand in order to identify minerals

by physical and optical properties. I should be mentioned in this context that the interference colour chart, attached to the first version, is unfortunately missing in this new edition.

Some more critical notes can be made: (1) this edition is rather similar to the first one, so it is not really necessary to replace the book you bought earlier, and (2) there is a distinct lack of updated references.

In general terms, the book is well written and very well illustrated, and it covers the ba-

sics on mineralogy. Therefore, it can, in spite of the shortcomings mentioned above, be recommended for undergraduate students, and also as a reference book for any lecturer on mineralogy who did not buy the original edition.

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