

Book Reviews

Edited by Donald Clark

FUNDAMENTALS OF STRUCTURAL GEOLOGY.

David D. Pollard and Raymond C. Fletcher (2005);
Cambridge University Press, 500 pgs. ISBN 10- 0-521-
83927-0, hard cover, \$88.

The authors wrote this text for both upper level undergraduate and graduate level students. The authors have indicated that a good working knowledge of physical geology, differential and integral calculus, physics, vector analysis, linear algebra and matrix theory are essential. The text uses the computer program MATLAB throughout and has an accompanying website. The website includes color pictures of the outcrops used in the text, supplementary images of the outcrops, maps and cross sections, additional exercises, additional exercises using MATLAB and MATLAB m-files and solutions to the exercises for instructors.

The text is subdivided into 12 separate chapters, starting with a “motivational” chapter designed to inspire students about the importance of structural geology. The remaining chapters cover a wide range of topics, including structural mapping, characterizing structures using differential geometry, deformation and flow, force traction and stress, conservation of mass and momentum, elastic and brittle behavior, viscous flow and rheological behavior and model development.

The authors do an excellent job of introducing the concepts of each chapter before applying the underlying mathematics to the subject matter found within the chapter. The mathematical treatment of the topics presented in the text, listed above, is supported by both laboratory work and field data. This is an excellent structural geology text and one that will be especially appreciated by those who enjoy both mathematics (and have the appropriate mathematical background) and computer modeling. The fact that this text is supported by a web site adds significantly to the value of the text.

Donald Clark

*68 Louis Street, Staten Island, New York 10304; CDN194@
aol.com*