
Structural Geology Fossen

Structural Geology: Fundamentals and Modern Developments

Teaching Methodologies in Structural Geology and Tectonics

Sedimentology and Stratigraphy

Geologic Fracture Mechanics

Structural Geology

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Microtectonics

Studyguide for Structural Geology by Haakon Fossen, Isbn 9780521516648

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Elements of Petroleum Geology

Structural Geology Algorithms

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Atlas of Structural Geology

Sedimentary Geology

Structural Geology

Structural Geology and Tectonics Field Guidebook — Volume 1

Principles of Igneous and Metamorphic Petrology

Essentials of Igneous and Metamorphic Petrology

Structural Geology

Basic Geological Mapping

Structural Geology in Reservoir Characterization

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Tectonics and Structural Geology: Indian Context

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Structural Geology
Regional Geology and Tectonics: Principles of Geologic Analysis
Structural Geology
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Problems and Solutions in Structural Geology and Tectonics
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Key Concepts in Geomorphology
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Fundamentals of Structural Geology
Basic Methods of Structural Geology

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Structural Geology: Fundamentals and Modern Developments Springer Nature Atlas of Structural Geology features a broad and inclusive range of high-quality meso- and micro-scale full-color photographs, descriptions, and captions related to the deformation of rocks and geologic structures. It is a multi-contributed, comprehensive reference that includes submissions from many of the world's leading structural geologists,

making it the most thorough and comprehensive reference available to the scientific community. All types of structures are featured, including structures related to ductile and brittle shear zones, sigma- and delta-structures, mineral fish, duplexes and trapezoids, shear related folds, and flanking structures in meso- and micro-scales. A stunning collection of the world's most beautiful and arresting geologic structures, the Atlas of Structural Geology is the ideal aid in the retention of key concepts in geology. Presents more than 250 top-quality, full-color photographs contributed

by the world's most respected structural geologists Features a broad range of morphological variations of geologic structures, making it the most up-to-date and inclusive reference of its kind Edited by a structural geologist with 14 years of experience in related research and instruction Aids researchers in developing mathematical and analogue models on the peculiarity and uniqueness of the world's most iconic structures

Teaching Methodologies in Structural Geology and Tectonics Macmillan Higher Education

Presents a comprehensive and up-to-date

account of the fundamental aspects of structural geology, emphasising both classical concepts and modern developments. A detailed account of the techniques of geometrical analysis is provided, giving a sound background to principles of geological deformation and in-depth analysis of mechanisms of formation of geological structures. Many new features are included such as detailed discussions on rotation of rigid inclusions and passive markers, boudinage (including chocolate tablet boudins, foliation boudins and shear fracture boudins), structural implications of basement-cover relations and time-relation between crystallation and deformation. The book presents the methods of structural analysis from microscopic to map scale, describes modern techniques used in field and laboratory and offers a balanced picture of modern structural geology as it emerges from combined field, experimental and theoretical studies. Hardback edition (0 080 41879 1) also available £50.00

Sedimentology and Stratigraphy

Pearson Higher Ed

Microtectonics is the interpretation of small-scale deformation structures in

rocks. They are studied by optical microscope and contain abundant information on the history and type of deformation and metamorphism in a rock and are therefore used by most geologists to obtain data for large-scale geological interpretations. This advanced textbook contains a large number of photographs and explanatory drawings, special chapters on related techniques, a chapter on microgauges and a simple, non-mathematical treatment of continuum mechanics with practical examples. Special terms are explained in boxes. This textbook is suited for independent use during optical studies on microstructures as a reference manual and as a manual for short courses.

Geologic Fracture Mechanics Springer Science & Business Media

"...the structural geology text that I have long been waiting for ...this text truly shows the application of structural geology to real life academic and industry problems. It will go straight onto my syllabus as the required text." Professor Bruce Trudgill, Colorado School of Mines "If you only buy one structural geology textbook - this is the one to get. It's both

theoretical and practical... with excellent illustrations and thought-provoking examples." Professor Rob Butler, University of Aberdeen Lavishly illustrated in color, this textbook takes an applied approach to introduce undergraduate students to the basic principles of structural geology. The book provides unique links to industry applications in the upper crust, which highlight the importance of structural geology in exploration and exploitation of petroleum and groundwater resources.

Structural Geology Springer

Developed with extensive community involvement and support from the US National Science Foundation, it is about our planet's dynamic surface, a place where Earth and atmosphere meet and life thrives. Key Concepts in Geomorphology takes an integrative science approach that applies principles of physics, chemistry, biology, and mathematics in the understanding of Earth surface processes and the evolution of topography over short and long timescales to solve problems important to people and societies. The authors also hone in on practical applications, showing how scientists are

using geomorphological research to tackle critical societal issues (natural disaster response, safer infrastructure, protecting species, and more).

Structural Geology Cambridge University Press

A pioneering single-semester undergraduate textbook that balances descriptive and quantitative analysis of geological structures.

Microtectonics Elsevier

This combination of text and lab book presents an entirely different approach to structural geology. Designed for undergraduate laboratory classes, it provides a step-by-step guide for solving geometric problems arising from structural field observations. The book discusses both traditional methods and cutting-edge approaches, with emphasis given to graphical methods and visualization techniques that support students in tackling challenging two- and three-dimensional problems. Numerous exercises encourage practice in using the techniques, and demonstrate how field observations can be converted into useful information about geological structures and the processes responsible for creating

them. This updated fourth edition incorporates new material on stress, deformation, strain and flow, and the underlying mathematics of the subject. With stereonet plots and solutions to the exercises available online at www.cambridge.org/ragan, this book is a key resource for undergraduates, advanced students and researchers wanting to improve their practical skills in structural geology.

[Studyguide for Structural Geology by Haakon Fossen, Isbn 9780521516648](#)
Elsevier

The Second Edition also benefits from new artwork that clearly illustrates complex concepts. New to the Second Edition: New Chapter: 15, "Geophysical Imaging," by Frederick Cook Within Chapters 21 and 22, four new essays on "Regional Perspectives" discuss the European Alps, the Altids, the Appalachians, and the Cascadia Wedge. New and updated art for more informative illustration of concepts. The Second Edition now has 570 black & white figures.

Structural Geology Cambridge University Press
Elements of Petroleum Geology, Fourth

Edition is a useful primer for geophysicists, geologists and petroleum engineers in the oil industry who wish to expand their knowledge beyond their specialized area. It is also an excellent introductory text for a university course in petroleum geoscience. This updated edition includes new case studies on non-conventional exploration, including tight oil and shale gas exploration, as well as coverage of the impacts on petroleum geology on the environment. Sections on shale reservoirs, flow units and containers, IOR and EOR, giant petroleum provinces, halo reservoirs, and resource estimation methods are also expanded. Written by a preeminent petroleum geologist and sedimentologist with decades of petroleum exploration in remote corners of the world Covers information pertinent to everyone working in the oil and gas industry, especially geophysicists, geologists and petroleum reservoir engineers Fully revised with updated references and expanded coverage of topics and new case studies
Structural Geology Elsevier
Regional Geology and Tectonics: Principles of Geologic Analysis, 2nd edition is the first in a three-volume series covering

Phanerozoic regional geology and tectonics. The new edition provides updates to the first edition's detailed overview of geologic processes, and includes new sections on plate tectonics, petroleum systems, and new methods of geological analysis. This book provides both professionals and students with the basic principles necessary to grasp the conceptual approaches to hydrocarbon exploration in a wide variety of geological settings globally. Discusses in detail the principles of regional geological analysis and the main geological and geophysical tools Captures and identifies the tectonics of the world in detail, through a series of unique geographic maps, allowing quick access to exact tectonic locations Serves as the ideal introductory overview and complementary reference to the core concepts of regional geology and tectonics offered in volumes 2 and 3 in the series Elements of Petroleum Geology John Wiley & Sons

This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. For a combined, one-semester,

junior/senior-level course in Igneous and Metamorphic Petrology. Also useful for programs that teach Igneous Petrology and Metamorphic Petrology. Typical texts on igneous and metamorphic petrology are geared to either advanced or novice petrology students. This unique text offers comprehensive, up-to-date coverage of both igneous and metamorphic petrology in a single volume—and provides the quantitative and technical background required to critically evaluate igneous and metamorphic phenomena in a way that students at all levels can understand. The goal throughout is for students to be able to apply the techniques—and enjoy the insights of the results—rather than tinker with theory and develop everything from first principles.

Structural Geology Algorithms

Geological Society of London
This widely used, highly readable introduction to structural analysis is specifically designed to support the laboratory work of undergraduates in structural geology courses. The new third edition includes: New and amended exercises and redrafted figures to improve clarity A single fold-out map of the Bree

Creek Quadrangle – a mythical site used to help students analyze various aspects of the geologic structures exposed within this quadrangle and ultimately to develop a grand synthesis A user-friendly spiral binding ideal for work in the lab or out in the field An Instructor manual CD-ROM for this title is available. Please contact our Higher Education team at HigherEducation@wiley.com for more information.

Studyguide for Structural Geology by Fossen, Haakon Cambridge University Press

Structural Geology is a groundbreaking reference that introduces you to the concepts of nonlinear solid mechanics and non-equilibrium thermodynamics in metamorphic geology, offering a fresh perspective on rock structure and its potential for new interpretations of geological evolution. This book stands alone in unifying deformation and metamorphism and the development of the mineralogical fabrics and the structures that we see in the field. This reflects the thermodynamics of systems not at equilibrium within the framework of modern nonlinear solid mechanics. The

thermodynamic approach enables the various mechanical, thermal, hydrological and chemical processes to be rigorously coupled through the second law of thermodynamics, invariably leading to nonlinear behavior. The book also differs from others in emphasizing the implications of this nonlinear behavior with respect to the development of the diverse, complex, even fractal, range of structures in deformed metamorphic rocks. Building on the fundamentals of structural geology by discussing the nonlinear processes that operate during the deformation and metamorphism of rocks in the Earth's crust, the book's concepts help geoscientists and graduate-level students understand how these processes control or influence the structures and metamorphic fabrics—providing applications in hydrocarbon exploration, ore mineral exploration, and architectural engineering. Authored by two of the world's foremost experts in structural geology, representing more than 70 years of experience in research and instruction. Nearly 300 figures, illustrations, working examples, and photographs reinforce key concepts and underscore major advances in

structural geology
Atlas of Structural Geology Macmillan Publishing Company

A modern quantitative approach to structural geology and tectonics for advanced students and researchers.

Sedimentary Geology Cambridge University Press

Written for a first course in sedimentary geology or sedimentary rocks and stratigraphy (with only an introductory geology/physical geology course as a prerequisite), Prothero and Schwab shows students how sedimentary strata serves geologists as a continuous record of Earth's history. The authors' conversational style, and focus on the important concepts make the book highly accessible to an undergraduate audience.
Structural Geology Geological Society Publishing House

This market-leading textbook has been fully updated in response to extensive user feedback. It includes a new chapter on joints and veins, additional examples from around the world, and stunning new field photos. Extended online resources reinforce key topics using summaries, examples, and innovative animations to

bring concepts to life.

Structural Geology and Tectonics Field Guidebook – Volume 1

Cambridge University Press

The two main aims of this Special Publication are to capture the wide range of rapidly expanding research in this area, which reflects the increasing importance of comprehensive 'structural characterization' in static reservoir descriptions, and to help promote synergy between the geosciences and petroleum engineering disciplines. The first aim is addressed by the sixteen papers of the volume, the majority of which cover a range of structural geological features, particularly faulted and fractured reservoirs, fault gouge properties, fault seal potential and fluid flow/simulation modelling in faulted and fractured reservoirs. The papers draw heavily on experience obtained in the North Sea.
Principles of Igneous and Metamorphic Petrology Cram101

Lavishly illustrated in color, this textbook takes an applied approach to introduce undergraduate students to the basic principles of structural geology. The book provides unique links to industry

applications in the upper crust, including petroleum and groundwater geology, which highlight the importance of structural geology in exploration and exploitation of petroleum and water resources. Topics range from faults and fractures forming near the surface to shear zones and folds of the deep crust. Students are engaged through examples and parallels drawn from practical everyday situations, enabling them to connect theory with practice. Containing numerous end-of-chapter problems, e-learning modules, and with stunning field photos and illustrations, this book provides the ultimate learning experience for all students of structural geology.

Essentials of Igneous and Metamorphic Petrology Cambridge University Press
Problems and Solutions in Structural Geology and Tectonics, Volume 5, in the

series *Developments in Structural Geology and Tectonics*, presents students, researchers and practitioners with an all-new set of problems and solutions that structural geologists and tectonics researchers commonly face. Topics covered include ductile deformation (such as strain analyses), brittle deformation (such as rock fracturing), brittle-ductile deformation, collisional and shortening tectonics, thrust-related exercises, rift and extensional tectonics, strike slip tectonics, and cross-section balancing exercises. The book provides a how-to guide for students of structural geology and geologists working in the oil, gas and mining industries. Provides practical solutions to industry-related issues, such as well bore stability Allows for self-study and includes background information and explanation of research and industry jargon Includes

full color diagrams to explain 3D issues
Structural Geology Cambridge University Press

Designed to be carried in the field, this pocket-sized how-to book is a practical guide to basic techniques in mapping geological structures. In addition to including the latest computerised developments, the author provides succinct information on drawing cross-sections and preparing and presenting 'fair copy' maps and geological diagrams. Contains a brief chapter on the essentials of report writing and discusses how to keep adequate field notebooks. A checklist of equipment needed in the field can be found in the appendices. Quote from 3rd edition "provides a wealth of good advice on how to measure, record and write reports of geological field observations"
The Naturalist