
With over 400 illustrations, this thoroughly updated edition examines how parts of the nervous system work together to regulate body systems and produce behavior. Diffusion MRI remains the most comprehensive reference for understanding this rapidly evolving and powerful technology and is an essential handbook for designing, analyzing, and interpreting diffusion MR experiments. Diffusion imaging provides a unique window on human brain anatomy. This non-invasive technique continues to grow in popularity as a way to study brain pathways that could never before be investigated in vivo. This book covers the fundamental theory of diffusion imaging, discusses its most promising applications to basic and clinical neuroscience, and introduces cutting-edge methodological developments that will shape the field in coming years. Written by leading experts in the field, it places the exciting new results emerging from diffusion imaging in the context of classical anatomical techniques to show where diffusion studies might offer unique insights and where potential limitations lie. Fully revised and updated version of the first comprehensive reference on a powerful technique in brain imaging Covers all aspects of a diffusion MRI study from acquisition through analysis to interpretation, and from fundamental theory to cutting-edge developments New chapters covering connectomics, advanced diffusion acquisition, artifact removal, and applications to the neonatal brain Provides practical advice on running an experiment Includes discussion of applications in psychiatry, neurology, neurosurgery, and basic neuroscience Full color throughout Neuroanatomy, Second Edition provides a fundamental knowledge base that is essential to a proper understanding of the clinical neurosciences. This edition includes additional topics on neurophysiology, neuropharmacology, and applied anatomy. The areas on cell membrane structure, cell membrane potential, action potential, synaptic transmission, tracts, and relays have been updated. This book also expands the topics on pineal gland, pituitary tumors, split brain effect, visual cortex, neural plasticity, and barrel fields. The topography of ventricles and summary table of cranial nerve are likewise revised. Other materials covered include nerve growth factor, neural transplantation, dorsal column transaction, cerebellar memory, and perivascular spaces. The neurotransmitters and neuromodulators, nuclear magnetic resonance, and position emission tomography are also discussed. This publication is a good reference for medical students intending to acquire knowledge of basic neurobiology. Ideal for students of neuroscience and neuroanatomy, the new edition of Netter's Atlas of Neuroscience combines the didactic well-loved illustrations of Dr. Frank Netter with succinct text and clinical points, providing a highly visual, clinically oriented guide to the most important topics in this subject. The logically organized content presents neuroscience from three perspectives: an overview of the nervous system, regional neuroscience, and systemic neuroscience, enabling you to review complex neural structures and systems from different contexts. You may also be interested in: A companion set of Flash cards, Netter's Neuroscience Flash Cards, to which the textbook is cross-referenced. Coverage of both regional and evolved neuroanatomy allows you to learn structure and function in different and important contexts. Combines the precision and beauty of Netter and Netter-style illustrations to highlight key neuroanatomical concepts and clinical correlations. Reflects the current understanding of the neural components and supportive tissue, regions, and systems of the brain, spinal cord, and periphery. Uniquely informative drawings provide a quick and memorable overview of anatomy, function, and clinical relevance. Succinct and useful format utilizes tables and short text to offer easily accessible "at-a-glance" information. Provides an overview of the basic features of the spinal cord, brain, and peripheral nervous system, the vasculature, meninges and cerebrospinal fluid, and basic development. Integrates the peripheral and central aspects of the nervous system. Bridges neuroanatomy and neurology through the use of correlative radiographs. Highlights cross-sectional brain stem anatomy and side-by-side comparisons of horizontal sections, CTs and MRIs. Expanded coverage of cellular and molecular neuroscience provides essential guidance on signaling, transcription factors, stem cells, evolved potentials, neuronal and glial function, and a number of molecular breakthroughs for a better understanding of normal and pathologic conditions of the nervous system. Micrographs, radiologic imaging, and stained cross sections supplement illustrations for a comprehensive visual understanding. Increased clinical points -- from sleep disorders and inflammation in the CNS to the biology of seizures and the mechanisms of Alzheimer's -- offer concise insights that bridge basic neuroscience and clinical application. With over 300 training programs in neuroscience currently in existence, demand is great for a comprehensive textbook that both introduces graduate students to the full range of neuroscience, from molecular biology to clinical science, but also assists instructors in offering an in-depth course in neuroscience to advanced undergraduates. The second edition of Fundamental Neuroscience accomplishes all this and more. The thoroughly revised text features over 25% new material including completely new chapters, illustrations, and a CD-ROM containing all the figures from the text. More concise and manageable than the previous edition, this book has been retouched to better serve its audience in the neuroscience and medical communities. Key Features: ***Logically organized into 7 sections with uniform editing of the content for a "one-voice" feel throughout all 54 chapters*** Includes numerous text boxes with concise, detailed descriptions of specific experiments, disorders, methodological approaches, and concepts*** Well-illustrated with over 850 full color figures, also included on the accompanying CD-ROMThe concept of this project is based on the premise that neurosurgeons are vital agents in the application of the American health care apparatus. They remain the true advocates for patients undergoing surgery for a neurological condition. Yet, the tenets of health care economics, health care policy, and the business of medicine remain largely debated within the context of politicians, policy experts, and administrators. This textbook will ease that gap. It will bring material generally absent from medical curricula into discussion. It will make potent features of health care economics, policy, and the business of practice digestible to clinical neurosurgeons in order to help them better treat their patients. The information provided in this text will also provide an excellent foundation for understanding the mechanisms that shape patient care. It simultaneously advances a medical career progressive and the provision of quality evaluation. A regional and functional approach to learning human neuroanatomy - enhanced by additional full-color illustrations and PowerPoint® slides of all images in the text for instructors! Neuroanatomy: Text and Atlas converts neuroanatomy from both a functional and regional perspective to provide an understanding of how the components of the central nervous system work together to sense the world around us, regulate body systems, and produce behavior. This trusted text thoroughly covers the sensory, motor, and integrative skills of the brains and presents an overview of the function in relation to structure and the locations of the major pathways and neuronal integrative regions. Neuroanatomy: Text and Atlas also teaches readers how to interpret the new wealth of human brain images by developing an understanding of the anatomical localization of brain function. The authoritative core content of myelin-stained histological sections is enhanced by informative line illustrations, angiography, and brain views produced by MRI, CT, and PET. "Revised and updated to reflect advances in clinical neuroanatomy and neural science. Full-color illustrations enrich the text, including many new to this edition. Chapters begin with a clinical case to illustrate the connections and functions of the key material. Chapters end with a series of multiple-choice review questions. NEW Online learning center will display brain views produced by MRI and PET. Increases knowledge of the regional and functional organization of the spinal cord and brain, one system at a time. Provides thorough coverage of the sensory, motor, and integrative systems of the brain, together with cerebral vasculature. Promotes understanding of the complex details of neuroanatomy needed for accurate interpretation of radiological image. Comprehensive atlas provides key views of the surface anatomy of the central nervous systems and photographs of myelin-stained sections in three anatomical planes. Includes learning aids such as clinical topics, boxes, chapter summaries, and a Glossary of key terms and structures. A modernizing revision will make it one of the most comprehensive books that incorporate new findings in growing areas of neurology.
memory, genetics, imaging and biochemistry - while retaining the book's traditional size, scope, focus, and successful uniform organization. New research findings, combined with several new and updated tables and figures, the book provides reliable guidelines on diagnosis and treatment of all neurological conditions and disorders.

**Human Neuroanatomy, 2nd Edition** is a comprehensive overview of the anatomy of the human brain and spinal cord. The book is written at a level to be of use as a text for advanced students and a foundational reference for researchers, clinicians in the field. Building on the foundations of the first edition, this revision looks to increase user-friendliness and clinical applicability through improved figures and the addition of illustrations. Written by Janice Robertson, the book focuses on human neuroanatomy, authoritatively covers this fundamental area of study within the neurosciences.

The Atlas of the Human Hypothalamus presents for the first time a detailed view of the cyto- and myeloarchitecture of the human hypothalamus. Providing high-resolution images of consecutive coronal sections, this book illustrates the brain area that is responsible for maintaining the homeostasis of the body by direct neuronal projections as well as by linking the central nervous system to the endocrine system. The primary goal of this atlas is to provide detailed morphological understanding of the hypothalamic structures that control numerous vital functions as well as to provide a tool to target hypothalamic areas during deep brain stimulation. Presents the first-ever detailed atlas on the human hypothalamus by using consecutive coronal sections Features high-resolution microphotographs of hypothalamic sections to demonstrate cyto- and myeloarchitectonic Differences nuclei and pathways by using standard nomenclature Provides precise location of hypothalamic structures to facilitate future attempts to use this hypothalamic structure as a site to target during deep brain stimulation

Beginners takes a close look at the anatomy of the human brain and teaches readers to identify and examine its structures in a relatable way. Unlike large textbooks that deliver a superficial overview of the subject, this book explores the anatomy and physiology of the brain using mnemonics techniques and informative comic figures that present brain regions at an introductory level, allowing readers to easily identify different parts of the brain. This volume is appropriate for undergraduate students, postdoctoral fellows, and researchers in the medicine, health sciences, and biological sciences.

Beginning with the morphology of the brain and spinal cord, this book then explores the somatic nerve and autonomic nerve, the cranial nerve and spinal nerve, the function of the brain, and concludes with the development of the nervous system. Features simplified illustrations for understanding the complicated neuroanatomy structures Introduces memorizing tips (mnemonics) to help students learn Describes how to find specific structures in cadaver specimens Includes cross-sectional figures to make neuroanatomy approachable for newcomers An essential review for residents in Nervous System disciplines, the chapters are organized into groups of questions covering neurobiology, neuroanatomy, clinical neurology, neuropathology, neuroradiology, neurosurgery, and critical care. Written and edited by neurosurgery residents who have passed the boards, the book works as an effective stand-alone review book or used in conjunction with the Definitive Neurological Surgery Board Review. Featuring hundreds of high-quality figures as well as high-yield tables, this essential review book concludes with a 300-question multidisciplinary self-assessment examination.
system, basic embryological development, microscopic anatomy and physiology. These introductory chapters are followed by an innovative, hierarchical approach to understanding the overall function of the nervous system. The applied anatomy of posture and movement, including the vestibular system and cerebellum, is comprehensively described and illustrated by examples of both function and dysfunction. The cranial nerves and elimination systems as well as behaviour, arousal and emotion are discussed. The final chapter addresses how to perform and interpret the neurological examination. Veterinary Neuroanatomy: A Clinical Approach has been prepared by experienced educators with 35 years of combined teaching experience in neuroanatomy. Throughout the book great care is taken to explain key concepts in the most transparent and memorable way whilst minimising jargon. Detailed information for those readers with specific interests in clinical neuroanatomy is included in the text and appendix. As such, it is suitable for veterinary students, practitioners and also readers with a special interest in clinical neuroanatomy. Contains nearly 200 clear, conceptual and anatomically precise drawings, photographs of clinical cases and gross anatomical specimens Keeps to simple language and focuses on the key concepts Unique ‘NeuroMaps’ outline the location of the functional systems within the nervous system and provide simple, visual aids to understanding and interpreting the results of the clinical neurological examination The anatomical appendix provides 33 high-resolution gross images of the intact and sliced dog brain and detailed histological images of the sectioned sheep brainstem. An extensive glossary explains more than 200 neuroanatomical structures and their function. The Parietal Lobe, Volume 151, the latest release from the Handbook of Clinical Neurology series, provides a foundation on the neuroanatomy, neurophysiology and clinical neurology/neuropsychology of the parietal lobe that is not only applicable to both basic researchers and clinicians, but also to students and specialists who are interested in learning more about disorders brought on by damage or dysfunction. Topics encompass the evolution, anatomy, connections, and neuropsychology, the major neurological and neuropsychological deficits and syndromes caused by damage, the potential for improvement via transcranial stimulation, and the role of the parietal in the cerebral networks for perception and action. Provides a broad overview of the neuroanatomy, neurophysiology and clinical neurology of this region of the cortex Offers additional insights regarding the role of the parietal in the cerebral networks for perception and action Addresses the most frequent complications associated with damage, including somatosensory, perceptual, language, and memory, deficits, pain, optic ataxia, spatial neglect, apraxia, and more Edited work with chapters authored by global leaders in the field Presents the broadest, most expert coverage available Accompanying compact disc titled "Student CD-ROM to accompany Neurosciences: exploring the brain" includes animations, videos, exercises, glossary, and answers to review questions in Adobe Acrobat PDF and other file formats Naming is a fundamental aspect of language. Word-finding deficit, anomia, is the most common symptom of language dysfunction occurring after brain damage. Besides its practical importance, anomia gives a fascinating view on the inner workings of language in the brain. There has been significant progress in the study of anomia in recent years, including advances in neuroimaging research and in psycholinguistic modelling. Written by two internationally known researchers in the field, this book provides a broad, integrated overview of current research on anomia. Beginning with an overview of psycholinguistic research on normal word retrieval as well as the influential cognitive models of naming, the book goes on to review the major forms of anomia. Neuroanatomical aspects, clinical assessment, and therapeutic approaches are reviewed and evaluated. Anomia: Theoretical and Clinical Aspects gives a thorough and up-to-date examination of the research and treatment of naming disorders in neurological patients. It covers both theory and practice and provides invaluable reading for researchers and practitioners in speech and language disorders, neuropsychology and neurology, as well for advanced undergraduate students and graduate students in the field. Although it has been mooted whether the dramatic technological advances in neurological practice, (i.e., neuroimaging) might render the physical exam redundant, others maintain the central importance of neurological examination in patient management. A Dictionary of Neurological Signs seeks to elucidate the interpretation of neurological signs (“neurosemology”): their anatomical, physiological, and pathological significance. (from the Preface) The structured entries in this practical, clinical resource provide a snapshot of a wide range of neurological signs. Each entry includes: definition of the sign; brief account of the clinical technique required to elicit the sign; description of the other signs which may accompany the index sign. Where known, the entries also include neuroanatomical basis of the sign; explanation of pathophysiological and/or pharmacological background; neuroanatomical basis; differential diagnosis; and brief treatment details. The Dictionary provides practical, concise answers to complex clinical questions. ANATOMY AND PHYSIOLOGY FOR SPEECH, LANGUAGE, AND HEARING, Fifth Edition, provides a solid foundation in anatomical and physiological principles relevant to communication sciences and disorders. Ideal for speech-language pathology and audiology students, as well as practicing clinicians, the text integrates clinical information with everyday experiences to reveal how anatomy and physiology relate to the speech, language, and hearing systems. Combining comprehensive coverage with abundant, full-color illustrations and a strong practical focus, the text makes complex material approachable even for students with little or no background in anatomy and physiology. Thoroughly updated to reflect current trends, techniques, and best practices, the Fifth Edition of this acclaimed text is supported by innovative Anatase learning software—now accessible online via PC, Mac, and tablet devices—featuring tutorials, interactive quizzes, and other resources to help students of all learning styles master the material and prepare for professional licensing exams. Important Notice: Media content referenced within the product description or the product text may not be available in the eBook version. This carefully designed textbook offers a brand-new approach to learning neuroanatomy for medical students and newly-qualified doctors, particularly those considering a career in neurology and neurosurgery. Promoting active learning and taking inspiration from other popular case-based formats, readers are encouraged to overcome their inherent ‘neurophobia’. The accessible text and practical examples, unencumbered by esoteric minutiae, support students and trainees in developing the necessary skills that will be essential in later clinical practice. Developed specifically in response to student feedback, the authors have succeeded in creating a novel, brief, and high-yield primer that offers a unique approach to mastering this challenging discipline. Case Closed! Neuroanatomy not only teaches students how to localize, but also guides them to solve successfully the problems that will reappear in their exams and in the clinic. Anatomy and imaging - Thorax - Abdomen - Pelvis and perineum - Lower limb - Upper limb - Head and neck. This book is primarily designed for undergraduate medical and dental students. Also, it is an authoritative reference source for postgraduates and practicing neurologists and neurosurgeons. All chapters revised and updated, including details on cranial nerves and their lesions, blood supply and cerebrovascular accidents, motor and sensory disorders, new line diagrams, and real life photographs and MRI scans. Simple, to-the-point, easy-to-understand exam-oriented text Numerous, four coloured, large sized, and easy-to-draw diagrams. Text provides unique problem based clinical and functional perspective. Copyright code: 4d40709d80035c8b08f5e3071227ebb