Ergonomics Training Resources Humantech

Thoroughly revised, this new edition of Critical Theory of Technology rethinks the relationships between technology, rationality, and democracy, arguing that the degradation of labor--as well as of many environmental, educational, and political systems--is rooted in the social values that preside over technological development. It contains materials on political theory, but the emphasis has shifted to reflect a growing interest in the fields of technology and cultural studies.

The Regulatory Craft tackles one of the most pressing public policy issues of our time—the reform of regulatory and enforcement practice. Malcolm K. Sparrow shows how the vogue prescriptions for reform (centered on concepts of customer service and process improvement) fail to take account of the distinctive character of regulatory responsibilities—which involve the delivery of obligations rather than just services.In order to construct more balanced prescriptions for reform, Sparrow invites us to reconsider the central purpose of social regulation—the abatement or control of risks to society. He recounts the experiences of pioneering agencies that have confronted the risk-control challenge directly, developing operational capacities for specifying risk-concentrations, problem areas, or patterns of noncompliance, and then designing interventions tailored to each problem. At the heart of a new regulatory craftsmanship, according to Sparrow, lies the central notion, "pick important problems and fix them." This beguilingly simple idea turns out to present enormously complex implementation challenges and carries with it profound consequences for the way regulators organize their work, manage their discretion, and report their performance. Although the book is primarily aimed at regulatory and law-enforcement practitioners, it will also be invaluable for legislators, overseers, and others who care about the nature and quality of regulatory practice, and who want to know what kind of performance to demand from regulators and how it might be delivered. It stresses the enormous benefit to society that might accrue from development of the risk-control art as a core professional skill for regulators.

Construction is a physically demanding occupation, but a vital part of our nation and the U.S. economy. In 2006, the total annual average number of workers employed in construction rose to an all-time high of nearly 7.7 million, according to U.S. Bureau of Labor Statistics data. This large workforce handled tasks that range from carrying heavy loads to performing repetitive tasks, placing them at risk of serious injury. The physically demanding nature of this work helps to explain why injuries, such as strains, sprains, and work-related musculoskeletal disorders, are so prevalent and are the most common injury resulting in days away from work. Although the construction industry presents many workplace hazards, there are contractors in the U.S. who are successfully implementing safety and health programs to address these issues, including work-related musculoskeletal disorders. The safety and health of all workers is a top priority for NIOSH. This booklet is intended to aid in the prevention of common job injuries that can occur in the construction industry. The solutions in this booklet are practical ideas to help reduce the risk of repetitive stress injury in common construction tasks. While some solutions may need the involvement of the building owner or general contractor, there are also many ideas that individual workers and supervisors can adopt. (Also available in Spanish).

The fourth edition of the Handbook of Human Factors and Ergonomicshas been completely revised and updated. This includes allexisting third edition chapters plus new chapters written to covernew areas. These include the following subjects: Managing low-back disorder risk in the workplace Online interactivity Neuroergonomics Office ergonomics Social networking HF&E in motor vehicle transportation User requirements Human factors and ergonomics in aviation Human factors in ambient intelligent environments As with the earlier editions, the main purpose of this handbookis to serve the needs of the human factors and ergonomicsresearchers, practitioners, and graduate students. Each chapter hasa strong theory and scientific base, but is heavily focused on realworld applications. As such, a significant number of case studies,examples, figures, and tables are included to aid in theunderstanding and application of the material covered.

Cognitive sciences have been involved under numerous accounts to explain how humans interact with technology, as well as to design technological instruments tailored to human needs. As technological advancements in fields like wearable and ubiquitous computing, virtual reality, robotics and artificial intelligence are presenting novel modalities for interacting with technology, there are opportunities for deepening, exploring, and even rethinking the theoretical foundations of human technology use. This volume entitled "Cognition and Interaction: From Computers to Smart Objects and Autonomous Agents" is a collection of articles on the impacts that novel 3 September Frontiers in Psychology 2019 | Cognition and Interaction interactive technologies are producing on individuals. It puts together 17 works, spanning from research on social cognition in human-robot interaction to studies on neural changes triggered by Internet use, that tackle relevant technological and theoretical issues in human-computer interaction, encouraging us to rethink how we conceptualize technology, its use and development. The volume addresses fundamental issues at different levels. The first part revolves around the biological impacts that technologies are producing on our bodies and brains. The second part focuses on the psychological level, exploring how our psychological characteristics may affect the way we use, understand and perceive technology, as well as how technology is changing our cognition. The third part addresses relevant theoretical problems, presenting reflections that aim to reframe how we conceptualize ourselves, technology and interaction itself. Finally, the last part of the volume pays attention to the factors involved in the design of technological artifacts, providing suggestions on how we can develop novel technologies closer to human needs. Overall, it appears that human-computer interaction will have to face a variety of challenges to account for the rapid changes we are witnessing in the current technology landscape.

Applied Ergonomics is a concise text focusing on the practical applications of ergonomics and is derived from the annual, ground-breaking, successful conference of the same name. This is not a conference proceedings but a text of applications, filling a niche in the ergonomics professional market for a book that is strong on the applications side o

Our working conditions have undergone rapid and fundamental changes during the last few years. One example is the widespread use of the individual computer in the shop, office and home. Another major development is that women now hold many jobs that used to be in the male domain, and that many more women choose a life-long occupational career. Workforces, tasks, conditions and tools are changing. Many office and industrial workers are tied to human-machine systems. Repetitive work can create cumulative health problems such as the often reported visual strains, mental stress and physical injury. Proper ergonomic measures can avoid such harmful effects and instead promote health conditions which are both efficient and agreeable. In this latest edition of Fitting the Task to the Human, Professor Karl Kroemer has revised and updated the text and data while remaining true to the spirit of Professor Etienne Grandjean's earlier editions. This aim is, as before, to impart basic knowledge of occupational ergonomics in a straightforward and lucid fashion to those responsible for the design, management and safety of people in the workplace, and to those who study it.

The first two editions of the Handbook of Human PerformanceTechnology helped define the rapidly growing and vibrant fieldof human performance technology - a systematic approach toimproving individual and organizational performance. Exhaustivelyresearched, this comprehensive sourcebook not only updates keyfoundational chapters on organizational change, evaluation,instructional design, and motivation, but it also featuresbreakthrough chapters on "performance technology in action" andaddresses many new topics in the field, such as certification, SixSigma, and communities of practice. Boasting fifty-five new chapters, contributors to this newedition comprise a veritable "who's who" in the field ofperformance improvement, including Geary Rummler, Roger Kaufman,Ruth Clark, Allison Rossett, Margo Murray, Judith Hale, Dana andJames Robinson, and many others. Praise for the third edition of the Handbook of HumanPerformance Technology "If you are in the business of trying to improve

organizationalperformance, this Handbook should be the first place youlook for answers to questions about human performancetechnology." - Joseph J. Durzo, CPT, Ph.D., senior vice president and chieflearning officer, Archstone-Smith "This newest edition of the Handbook provides anunparalleled, all-encompassing survey of the latest theory and itspractical application in this emergent field. This book is amust-have reference for any professional wishing to systematicallyimprove performance within their organization." - Weston McMillan, CPT, manager, training and development, eBayInc. "An invaluable, engaging resource for anyone charged withimproving workplace performance. It not only provides thebackground and foundations of our profession, but more importantly,it also provides the most up-to-date descriptions of how to applyHPT to drive results." - Rodger Stotz, CPT, vice president and managing consultant, MaritzInc. "This book is filled with insights--both for those who are newto the field and also for those who are experienced. It offersconcrete advice and examples on how to use HPT to impact businessresults and how to work successfully within organizations." - Anne Marie Laures, CPT, director, learning services, WalgreenCo. "The Handbook contains many of the secrets for improving theperformance of individuals, groups, and organizations." - Robert F. Mager, author, Analyzing Performance Problemsand How to Turn Learners On...Without Turning Them Off

The rapid introduction of sophisticated computers, services, telecommunications systems, and manufacturing systems has caused a major shift in the way people use and work with technology. It is not surprising that computer-aided modeling has emerged as a promising method for ensuring products meet the requirements of the consumer. The Handbook of Digital Human Modeling provides comprehensive coverage of the theory, tools, and methods to effectively achieve this objective. The 56 chapters in this book, written by 113 contributing authorities from Canada, China, France, Germany, the Netherlands, Poland, Sweden, Taiwan, UK, and the US, provide a wealth of international knowledge and guidelines. They cover applications in advanced manufacturing, aerospace, automotive, data visualization and simulation, defense and military systems, design for impaired mobility, healthcare and medicine, information systems, and product design. The text elucidates tools to help evaluate product and work design while reducing the need for physical prototyping. Additional software and demonstration materials on the CRC Press web site include a never-before-released 220-page step-by-step UGS-Siemens JackTM help manual developed at Purdue University. The current gap between capability to correctly predict outcomes and set expectation for new and existing products and processes affects human-system performance, market acceptance, product safety, and satisfaction at work. The handbook provides the fundamental concepts and tools for digital human modeling and simulation with a focus on its foundations in human factors and ergonomics. The tools identified and made available in this handbook help reduce the need for physical prototyping. They enable engineers to quantify acceptability and risk in design in terms of the human factors and ergonomics.

Occupational HazardsConsultants & Consulting Organizations DirectoryGale CengageHandbook of Human Performance TechnologyPrinciples, Practices, and PotentialJohn Wiley & Sons

Cybernics plays a significant role in coping with an aging society using state-of-the-art technologies from engineering, clinical medicine and humanities. This new interdisciplinary field studies technologies that enhance, strengthen, and support physical and cognitive functions of human beings, based on the fusion of human, machine, and information systems. The design of a seamless interface for interaction between the interior and exterior of the human body is described in this book from diverse aspects such as the physical, neurophysiological, and cognitive levels. It is the first book to cover the many aspects of cybernics, allowing readers to understand the life support robotics technology for the elderly, including remote, in-home, hospital, institutional, community medical welfare, and vital-sensing systems. Serving as a valuable resource, this volume will interest not only graduate students, scientists, and engineers but also newcomers to the field of cybernics.

The Workgroup Human–Computer Interaction & Usability Engineering (HCI&UE) of the Austrian Computer Society (OCG) serves as a platform for interdisciplinary - change, research and development. While human–computer interaction (HCI) tra- tionally brings together psychologists and computer scientists, usability engineering (UE) is a software engineering discipline and ensures the appropriate implementation of applications. Our 2008 topic was Human–Computer Interaction for Education and Work (HCI4EDU), culminating in the 4th annual Usability Symposium USAB 2008 held during November 20–21, 2008 in Graz, Austria (http://usab-symposium.tugraz.at). As with the field of Human–Computer Interaction in Medicine and Health Care (HCI4MED), which was our annual topic in 2007, technological performance also increases exponentially in the area of education and work. Learners, teachers and knowledge workers are ubiquitously confronted with new technologies, which are available at constantly lower costs. However, it is obvious that within our e-Society the knowledge acquired at schools and universities – while being an absolutely necessary basis for learning – may prove insufficient to last a whole life time. Working and learning can be viewed as parallel processes, with the result that li- long learning (LLL) must be considered as more than just a catch phrase within our society, it is an undisputed necessity. Today, we are facing a tremendous increase in educational technologies of all kinds and, although the influence of these new te- nologies is enormous, we must never forget that learning is both a basic cognitive and a social process – and cannot be replaced by technology.

In the last two hundred years, the field of ergonomics has become a multidisciplinary science, incorporating elements of anatomy, physiology, psychology and engineering, all with the goal of making products and systems fit the people who use them. Ergonomics in Product Design is an invaluable resource for designers looking to stay at the forefront of ergonomic design, starting with a breakdown of human body points and percentiles, moving into an overview of principles and culminating in a curated selection of cutting-edge ergonomically designed products. Chairs and computer peripherals might be the first things to come to mind, and both are certainly covered here, along with much more: a thermometer, shampoo dispenser, bar of soap, bottle opener, fire extinguisher, dishes and tableware, wheelchairs, crutches, safety masks and more - all re-imagined based on the latest in ergonomic science.

In The Modern Invention of Information: Discourse, History, and Power, Ronald E. Day provides a historically informed critical analysis of the concept and politics of information. Analyzing texts in Europe and the United States, his critical reading method goes beyond traditional historiographical readings of communication and information by engaging specific historical texts in terms of their attempts to construct and reshape history. After laying the groundwork and justifying his method of close reading for this study, Day examines the texts of two pre–World War II documentalists, Paul Otlet and Suzanne Briet. Through the work of Otlet and Briet, Day shows how documentation and information were associated with concepts of cultural progress. Day also discusses the social expansion of the conduit metaphor in the works of Warren Weaver and Norbert Wiener. He then shows how the work of contemporary French multimedia theorist Pierre Lévy refracts the earlier philosophical writings of Gilles Deleuze and Félix Guattari through the prism of the capitalist understanding of the "virtual society." Turning back to the pre–World War II period, Day examines two critics of the information society: Martin Heidegger and Walter Benjamin. He explains Heidegger's philosophical critique of the information culture's model of language and truth as well as Benjamin's aesthetic and historical critique of mass information and communication. Day concludes by contemplating the relation of critical theory and information, particularly in regard to the information culture's transformation of history, historiography, and historicity into positive categories of assumed and represented knowledge.

Research suggests that ergonomists tend to restrict themselves to two or three of their favorite methods in the design of systems, despite a multitude of variations in the problems that they

face. Human Factors and Ergonomics Methods delivers an authoritative and practical account of methods that incorporate human capabilities and limitations, envi
Neuroergonomics: The Brain at Work and in Everyday Life details the methodologies that are useful for keeping an ideal human-machine system up-to-date, along with information on how to prevent potential overload and minimize errors. It discusses neural measures and the proper methods and technologies to maximize performance, thus providing a resource for neuroscientists who want to learn more about the technologies and real-time tools that can help them assess cognitive and motivational states of human operators and close the loop for advanced human-machine interaction. With the advent of new and improved tools that allow monitoring of brain activity in the field and better identification of neurophysiological markers that can index impending overload or fatigue, this book is a timely resource on the topic. Includes neurobiological models to better understand risky decision-making and cognitive countermeasures, augmented cognition, and brain stimulations to enhance performance and mitigate human error Features innovative methodologies and protocols using psychophysiological measurements and brain imaging techniques in realistic operational settings Discusses numerous topics, including cognitive performance in psychological and neurological disorders, brain computer interfaces (BCI), and human performance monitoring in ecological conditions, virtual reality, and serious gaming
Commonly used throughout the world, manual lifting tasks—whether simple or complex—all involve variable loads, postures, and movements. This practical guide discusses how to analyze the intricate lifting function and prevent injury during its execution. Outlining revised NIOSH Lifting Equation (RNLE) methods, the book illustrates their use in assessing manual lifting tasks of varying degrees of difficulty. Using examples to reinforce presented concepts, it explains how RNLE methods can be applied to evaluate single, composite, variable, and sequential lifting tasks. It also explores how to interpret and apply the results according to international standards and guidelines.
Terry Jo Gile (the Safety Lady) and Dan Scungio have completely updated this trusted lab safety training and compliance resource for 2014. The Complete Guide to Laboratory Safety, Fourth Edition, consolidates regulations from all relevant agencies, including OSHA, The Joint Commission, CAP, CLSI, DOT, and state health departments. This proven guide offers customizable policies, procedures, and checklists to develop and update a compliance program and avoid costly fines. The Complete Guide to Laboratory Safety will help you: - Create and update your policies and procedures with fully customizable templates - Build a culture of safety with checklists and tools related to topics including waste management, specimen transportation, chemical hygiene, and ergonomics in the lab setting - Keep up to date with regulations from OSHA, The Joint Commission, - CAP, CLSI, DOT, and state regulators - Employ best practices to avoid worker injury and costly citations What's New? - This edition is updated with all relevant regulations, including the new American National Standards Institute (ANSI) guidelines for fire safety and the revised International Air Transportation Association (IATA) requirements - New case studies are featured in each chapter - The book includes the Clinical and Laboratory Standards Institute (CLSI) recommendations for laboratory design, which Dan Scungio helped develop - This edition includes newly developed safe work practices - The book includes a new chapter on chemical management that incorporates OSHA's revised hazardous chemical labeling standard
The approach to the book is analogous to a toolkit. The user will open the book and locate the tool that best fits the ergonomic assessment task he/she is performing. The chapters of the book progress from the concept of ergonomics, through the various assessment techniques, and into the more complex techniques. In addition to discussing the techniques, this book presents them in a form that the readers can readily adapt to their particular situation. Each chapter, where applicable, presents the technique discussed in that chapter and demonstrates how it is used. The supporting material at the end of each chapter contains exercises, case studies and review questions. The case study section of the book presents how to use techniques to analyze a range of workplace scenarios. Topics include: The Basics of Ergonomics; Anthropometry; Office Ergonomics; Administrative Controls; Biomechanics; Hand Tools; Vibration; Workstation Design; Manual Material Handling; Job Requirements and Physical Demands Survey; Ergonomic Survey Tools; Work-related Musculoskeletal Disorders; How to Conduct an Ergonomics Assessment; and Case Studies
Human factors/ergonomics (HFE) as a discipline has grown by accretions rather than having been developed systematically and deliberately. Therefore, this book's goal creates a formal conceptual structure for HFE. It is intended as a contribution to cultural history because (a) ours is a technological civilization, and (b) one cannot understand technology outside of the various disciplines that make up that technology. A disciplinary history is highly specialized, but the author maintains that HFE is distinctive in being the only discipline that relates humans to technology. Other behavioral disciplines like anthropology have little connection with technology, and this is what makes HFE important in the present historical era.
In this incessantly readable, groundbreaking work, Vincente makes vividly clear how we can bridge the widening gap between people and technology. He investigates every level of human activity - from simple matters such as our hand-eye coordination to complex human systems such as government regulatory agencies, and why businesses would benefit from making consumer goods easier to use. He shows us why we all have a vital stake in reforming the aviation industry, the health industry, and the way we live day-to-day with technology.
This comprehensive text is the definitive academic pain medicine resource for medical students, residents and fellows. Acting as both an introduction and continued reference for various levels of training, this guide provides practitioners with up-to-date academic standards. In order to comprehensively meet the need for such a contemporary text—treatment options, types of pain management, and variables affecting specific conditions are thoroughly examined across 48 chapters. Categories of pain conditions include orofacial, neuropathic, visceral, neck, acute, muscle and myofascial, chronic urogenital and pelvic, acute, and regional. Written by renowned experts in the field, each chapter is supplemented with high-quality color figures, tables and images that provide the reader with a fully immersive educational experience. Academic Pain Medicine: A Practical Guide to Rotations, Fellowship, and Beyond is an unprecedented contribution to the literature that addresses the wide-spread requisite for a practical guide to pain medicine

within the academic environment.

Research institutions have or are planning to build, expand and renovate animal research facilities to keep up with the demands of biomedical research caused in part by growth in the use of genetically altered rodents and the upsurge of research in infectious diseases. Properly designed facilities greatly facilitate effective management and high-quality day-to-day animal care that is required to optimally support animal research and testing. There are multiple solutions to address the myriad of factors that influence the design and construction of animal research facilities. There is no "best design applicable for all facilities and arguably not even a single "best design for a given facility. For this reason, Planning and Designing Research Animal Facilities is not intended to be a "how to book. The goal is to cover the basic programmatic requirements of animal research facilities, provide ideas for meeting those requirements while, hopefully, stimulating the creative process in which designers in consultation with those who work in animal research facilities generate even better ideas. That is how progress has been made and will continue to be made. Facilitates communication between the parties involved in planning and designing animal facilities by providing contemporary information, and stimulating creativity that will help lead to wise decisions and advance the knowledge base for planning, design and constructing animal research facilities

A systems approach to understanding and minimizing the causes of low back pain in the workplace Low back pain affects 80% of the population at some point during their lifetime; it is responsiblefor over 40% of the compensation costs for work-related injuries. This book provides an understanding of the mechanisms influencing low back pain in the workplace and indicates how low back pain might be prevented, saving employers extraordinary amounts in medical costs and protecting workers from the most common on-the-job injury. With a unique, multidisciplinary perspective that shows how various influences or risk factors can be considered collectively, The Working Back: A Systems View: Explains basic concepts in anatomy and physiology that are essential to understanding and preventing low back pain Provides a systems perspective on the occupational causes of back pain, not only addressing factors such as spine loading, but also considering the potential impact of psychosocial and organizational interactions, genetics, and physiology Discusses implementing preventive engineering and administrative controls and integrating risk interventions into the workplace Offers an expert analysis of current medical research on low back pain in one comprehensive, accessible reference This book gives readers the knowledge to assess a work environment and prescribe effective interventions. It is a hands-on reference for ergonomists, manufacturing engineers, process engineers, industrial engineers and managers, safety engineers, nurses, therapists, chiropractors, physicians, and workers with back pain. It is also an excellent resource for graduate or undergraduate students of kinesiology, physiology, ergonomics, physical therapy, nursing, industrial design, engineering, and general medicine.

Advice from the experts on how to justify time and money spent on usability!

"This booklet is written for managers and supervisors in industries that involve the manual handling of containers. It offers suggestions to improve the handling of rectangular, square, and cylindrical containers, sacks, and bags. "Improving Manual Material Handling in Your Workplace" lists the benefits of improving your work tasks. It also contains information on risk factors, types of ergonomic improvements, and effective training and sets out a four-step proactive action plan. The plan helps you identify problems, set priorities, make changes, and follow up. Sections 1 and 2 of "Improvement Options" provide ways to improve lifting, lowering, filling, emptying, or carrying tasks by changing work practices and/or the use of equipment. Guidelines for safer work practices are also included. Section 3 of "Improvement Options" provides ideas for using equipment instead of manually handling individual containers. Guidelines for safer equipment use are also included. For more help the "Resources" section contains additional information on administrative improvements, work assessment tools and comprehensive analysis methods. This section also includes an improvement evaluation tool and a list of professional and trade organizations related to material handling."--Page 6.

Sustainable Development is now firmly on the planning agenda and is an issue neither practitioner nor academic can afford to ignore. Planning for a Sustainable Future provides a multi-disciplinary overview of sustainability issues in the land use context, focusing on principles and their application, the legal, political and policy context and the implication of sustainable development thinking for housing, urban design and property development as well as waste and transport. The book concludes by considering how sustainable and unsustainable impacts alike can be measured and modelled, providing real tools to move beyond rhetoric into practice.

Social robots not only work with humans in collaborative workspaces – we meet them in shopping malls and even more personal settings like health and care. Does this imply they should become more human, able to interpret and adequately respond to human emotions? Do we want them to help elderly people? Do we want them to support us when we are old ourselves? Do we want them to just clean and keep things orderly – or would we accept them helping us to go to the toilet, or even feed us if we suffer from Parkinson's disease? The answers to these questions differ from person to person. They depend on cultural background, personal experiences – but probably most of all on the robot in question. This book covers the phenomenon of social robots from the historic roots to today's best practices and future perspectives. To achieve this, we used a hands-on, interdisciplinary approach, incorporating findings from computer scientists, engineers, designers, psychologists, doctors, nurses, historians and many more. The book also covers a vast spectrum of applications, from collaborative industrial work over education to sales. Especially for developments with a high societal impact like robots in health and care settings, the authors discuss not only technology, design and usage but also ethical aspects. Thus this book creates both a compendium and a guideline, helping to navigate the design space for future developments in social robotics.