

Book Review

Marras, W.S. and W. Karwowski. *The Occupational Ergonomics Handbook: Interventions, Controls, and Applications in Occupational Ergonomics.* 2nd ed., 1872 pp., CRC Press, New York, 2006. ISBN 0849319390

Practitioners of ergonomics, occupational safety and health and industrial hygiene will find the Occupational Ergonomics Handbook an excellent resource for a wide variety of issues in ergonomics compounded by modern changes in work methods brought about by rapid technological changes. Gathering contributions from experts coming from the innocuous fellowship of academic and private research institutions as well as a wide spectrum of industrial and consultancy based human resources who have acquired the knowledge and expertise in ergonomics and its application, this book is a most refreshing and welcome addition that will greatly provide an impetus for further evolution of the field of ergonomics.

As more and more workers are becoming aware of the effects of different work methods and how it can affect their general well being, the field of ergonomics have responded in rapid successions by issuing standards and providing information of work methods improvement. This handbook provides a vast amount of information that covers a range of ergonomic topics and its respective applications. The book is divided into eight parts. Each part contains chapters written by authors who have distinguished themselves in their respective fields both from the academe and private, industrial organizations in a style that is direct to the point yet simple enough thus eloquently and persuasively encourages the reader to develop a clear understanding of what ergonomics is all about.

At the beginning of each chapter is a very well organized list of topics and subtopics which is very useful to locate areas of special interest to readers quickly. The eight parts include:

- Part 1 introduces the ergonomic processes which is necessary in order to focus the attention of the reader to the theory and practice of ergonomics. It discusses the elements of ergonomic processes from practical applications to success factors and psychosocial work factors.
- Part 2 is all about surveillance and contains two chapters in injury surveillance and corporate health management.
- Part 3 delves into small and large industrial processes and how ergonomics can be used as a competitive advantage. It describes the characteristics of businesses and the ergonomic techniques and approaches.
- Part 4 discusses upstream ergonomics and how the concept and techniques of ergonomics can be used in the early stages of the system life cycle specifically project conceptualization and design.
- Part 5 provides detailed information on engineering controls. It also discusses some very common ergonomic problems encountered in the workplace and how it can be prevented. Typical of these are low back disorder, assist equipment, the use of personal protective equipment such as gloves, and wrist, arm and low extremity supports.
- Part 6 is a strategic follow up to part 5 and is about administrative controls. This section contains a broad discussion of the different methods by which ergonomic issues can be dealt with using

administrative control. Especially useful to management level decision-making and policy institutionalization, the reader is guided as to what management can do to prevent workplace hazards related to ergonomics.

- Part 7 – Provides a special discussion of medical management. This important chapter uses the science of rehabilitation medicine without the complicated terms endeared by the medical practitioners. For example chapter 34 discusses some clinical evaluation of workers with musculoskeletal disorders using questionnaires in order to obtain epidemiological information. It provides useful questionnaires illustrating the purpose for which the question is aimed.
- Part 8 contains fifteen information-filled chapters each discussing specific issues in industrial ergonomic intervention. These issues range from chairs and furniture to computer keyboard design, from different processing operations such as meat packing and poultry processing, and agriculture to health care and from bakery to the construction industry. This part ends with a future in mind. It poses a challenge to researchers and practitioners of ergonomics to the challenges and opportunities that lie in the future and how ergonomics will develop and respond.

Also an innovative style used by this book is the inclusion of appendices right after the respective chapters, thus simplifying the reader's task of referring to it quickly in each chapter rather than looking at it at the end of the book. Each chapter also provides resources for future readings as well as references for information used in each chapter. The figures such as graphs, illustrations, and pictures are shown clearly as much as possible on the pages where it is being referred. This makes it easier to comprehend the topic being discussed, eliminating the confusing and cumbersome back and forth flipping of pages as readers try to match the text of the discussion to that of the corresponding figures.

In summary, professionals in the ergonomic and allied fields such as occupational health and safety and industrial hygiene will find a handy resource for information contained in all eight parts with fifty two chapters filled with theories, recent findings, conclusions, practical applications and related information strongly supported by established research pioneers who authored and written about ergonomics from the early years to the latest practitioners of the field.

Larry B. Nabilan
Dept. of Construction Management and Industrial Engineering
Louisiana State University
Baton Rouge, LA 70803, USA
E-mail: Lnabat1@lsu.edu