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Occupational Ergonomics: Work Evaluation and Prevention of Upper Limb and Back Disorders

**February 20-23, 2006
Four Points Hotel at LA Airport
Los Angeles, California**



Ergonomic Job Analysis

**February 24-25 2006
Four Points Hotel at LA Airport
Los Angeles, California**



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**University of Michigan
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**Southern California Education and Research Center, UCLA School of Public Health
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Occupational Ergonomics: Work Evaluation and Prevention of Upper Limb and Back Disorders

February 20–23, 2006

Program Arrangers and Planners:
Thomas J. Armstrong, Ph.D., CIH
Don B. Chaffin, Ph.D., PE, CPE
Randall A. Rouborn, CSP, CPE

Many consider these to be the premier continuing education programs in occupational ergonomics. Over 4000 people have attended these University of Michigan programs

Program Description

Manual labor continues to be one of our most valuable industrial resources despite strides in production automation. More than ever it is important that jobs and equipment be designed to enable workers to achieve their full potential while preventing pain and injury. This course provides comprehensive coverage of ergonomic issues and principles associated with manual work and workplace musculoskeletal disorders. Leading ergonomics practitioners and educators will provide lectures, case studies, video depictions of workplaces and discussion sessions. The focus will be on ergonomic principles and concepts so that attendees can apply this information to their own work environments. Topics include: biomechanics; risk factors of upper extremity and low back disorders; fatigue; job evaluation techniques; common worker medical issues; and industrial ergonomics programs and justification to management. Specific topics are provided elsewhere in this brochure.

Program Objective

Attendees will learn basic principles and gain knowledge needed to evaluate workplace ergonomic conditions and recommend workplace designs meant to control chronic and acute musculoskeletal disorders and enhance worker performance.

Who Should Attend

This course is intended for those who are responsible for the prevention of injuries (or worker re-injury) and illnesses in the workplace, particularly: safety and health personnel; industrial hygienists; occupational health care providers, including nurses and physicians; industrial, manufacturing and workplace design engineers; management and labor representatives; and physical and occupational therapists working with industry.

Ergonomic Job Analysis

February 24-25, 2006

Program Arrangers and Planners:
W. Monroe Keyserling, Ph.D., CSP, CPE
Randall A. Rouborn, CSP, CPE

Past attendees represent hundreds of leading corporations, labor organizations, insurance companies, government agencies, clinical service providers and universities from the United States and abroad.

Program Description

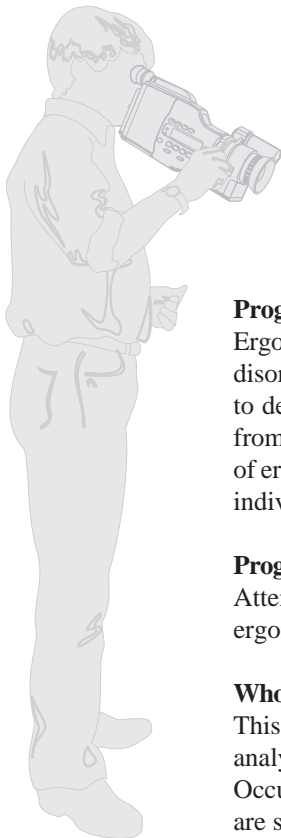
Ergonomic analysis of jobs is an essential part of a comprehensive program for controlling work-related musculoskeletal disorders such as low back pain and upper extremity repetitive trauma. This program uses lectures and demonstrations to develop practical job analysis skills. Students participate in analyses and discussion of videotaped jobs selected from a variety of industries and occupations. Case studies and discussions emphasize the identification and evaluation of ergonomic stresses and the development of alternative solutions to workplace problems. This course is intended for individuals who already have a basic knowledge of occupational ergonomics.

Program Objective

Attendees will learn structured methods of job documentation and job analysis in order to systematically identify ergonomic stresses that cause work-related musculoskeletal disorders and impede job performance.

Who Should Attend

This course is intended for those with a basic knowledge of ergonomics who need to obtain and apply ergonomic job analysis skills. Attendees are expected to have a basic knowledge of ergonomics (equivalent to topics covered in Occupational Ergonomics described above). Those with a limited background who wish take Ergonomic Job Analysis are strongly encouraged to also attend Occupational Ergonomics.



Occupational Ergonomics: Work Evaluation and Prevention of Upper Limb and Back Disorders

* Preliminary Schedule

Monday, February 20, 2006

7:30 Registration
 8:00 - 8:30 Introduction and Overview of Ergonomics
Don Chaffin, Ph.D., Randy Rouborn
 8:30 - 9:30 Epidemiology of Low Back Pain and Disability
Michael Feuerstein, Ph.D.
 9:30 - 9:40 Break
 9:40 - 10:40 Low Back Biomechanics
D. Chaffin
 10:40 - 10:50 Break
 10:50 - 11:40 Management of Musculoskeletal Disorders
M. Feuerstein
 11:40 - 12:00 Discussion, Questions and Answers
M. Feuerstein, D. Chaffin
 12:00 - 1:00 Lunch
 1:00 - 2:00 Whole Body Biomechanics in High Exertion Tasks
D. Chaffin
 2:00 - 2:30 Biomechanical Job Analysis Demonstration
R. Rouborn
 2:30 - 2:45 Break
 2:45 - 3:45 Energy Cost of Manual Work; Fatigue
D. Chaffin
 3:45 - 4:15 Energy Expenditure Job Analysis Demonstration
R. Rouborn
 4:15 Adjourn

Tuesday, February 21, 2006

8:00 - 9:00 NIOSH Work Practices Guide for Manual Lifting
D. Chaffin
 9:00 - 9:30 NIOSH Lifting Equation Analysis Demonstration
R. Rouborn
 9:30 - 9:45 Break
 9:45 - 10:35 Job-centered Back Injury Rehabilitation
Ira Janowitz, PT, CPE
 10:35 - 10:45 Break
 10:45 - 11:45 Justifying Ergonomics to Management
I. Janowitz
 11:45 - 12:00 Discussion, Questions and Answers
D. Chaffin, I. Janowitz
 12:00 - 1:00 Lunch
 1:00 - 1:50 Workplace Design to Prevent Low Back Pain
D. Chaffin
 1:50 - 2:00 Break
 2:00 - 3:00 CalOSHA and Ergonomics: Regulation; Consultation; Resources
Jim Lopes
 3:00 - 3:10 Break
 3:10 - 3:40 Biomechanical Considerations in the Use of Back Belts
D. Chaffin
 3:40 - 4:00 Discussion, Questions and Answers
D. Chaffin
 4:00 Adjourn

Wednesday, February 22, 2006

8:00 - 8:50 Introduction to Ergonomics and the Upper Extremities
T. Armstrong
 8:50 - 9:00 Break
 9:00 - 9:50 Biomechanical Aspects of Work Related Musculoskeletal Disorders (MSDs)
T. Armstrong
 9:50 - 10:00 Break
 10:00 - 10:50 Analysis of Jobs and MSD Risk Factors
 [Job descriptions, time-based analysis, event-based analysis, quantification of job stressors (repetition, force and posture), ACGIH TLV for mono-task hand work]
T. Armstrong
 10:50 - 11:00 Break
 11:00 - 11:50 Designing for the Hand for Control of Musculoskeletal Impairments
Robert Markison, M.D.
 11:50 - 12:50 Lunch
 12:50 - 1:35 Worker Disability Examination
R. Markison
 1:35 - 1:45 Break
 1:45 - 2:35 Analysis of Jobs and MSD Risk Factors, continued
T. Armstrong
 2:35 - 2:45 Break
 2:45 - 3:35 Analysis of Jobs and MSD Risk Factors, continued
T. Armstrong
 3:35 - 3:45 Break
 3:45 - 4:30 Analysis of Jobs and MSD Risk Factors, continued
T. Armstrong
 4:30 Adjourn

Thursday, February 23, 2006

8:00 - 8:50 Localized Fatigue
T. Armstrong
 8:50 - 9:00 Break
 9:00 - 9:50 Review of an Effective Industrial Ergonomics Program
Gwen Malone, MPH
 9:50 - 10:00 Break
 10:00 - 10:50 Ergonomic Interventions to Address Upper Limb Intensive Work
G. Malone
 10:50 - 11:00 Break
 11:00 - 12:00 Design of Jobs for Manual Work
 [anthropometric considerations of work station design, tool selection, work pace considerations]
T. Armstrong
 12:00 - 1:00 Lunch
 1:00 - 1:50 Design of Jobs for Manual Work (Continued)
T. Armstrong
 1:50 - 2:00 Break
 2:00 - 2:50 Industrial Case Study
Ryan Horton
 2:50 - 3:00 Break
 3:00 - 4:00 Design of Jobs for Manual Work, (Continued)
T. Armstrong
 4:00 Adjourn

Ergonomic Job Analysis

Preliminary Schedule*

Friday, February 24, 2006

7:30 Registration
 8:00 - 8:30 Welcome and Course Overview
W. Monroe Keyserling, Ph.D., CSP, CPE; Randy Rouborn, CSP, CPE
 8:30 - 9:15 The Job Analysis Process: Objectives, Procedures, Recording, Reporting
M. Keyserling
 9:15 - 9:30 Break
 9:30 - 10:30 Case Study #1 - (manufacturing/production/assembly)
 10:30 - 10:45 Break
 10:45 - 11:45 Case Study #1, continued
 11:45 - 12:45 Lunch
 12:45 - 1:25 Case Study #2 - (manufacturing/production/assembly)
 1:25 - 1:35 Break
 1:35 - 2:30 Methods for Including Worker Input when Analyzing Jobs
Sheryl Ulin, Ph.D., CPE
 2:30 - 2:40 Break
 2:40 - 3:20 Case Study #3 - (manufacturing/production/assembly)
 3:20 - 3:30 Break
 3:30 - 4:45 OWAS: An Observational Approach to Work Analysis
M. Keyserling
 4:45 Adjourn

Saturday, February 25, 2006

8:00 - 8:50 Job Analysis Checklists
M. Keyserling
 8:50 - 9:00 Break
 9:00 - 10:15 Case Study #4 - (Office Environment)
 10:15 - 10:30 Break
 10:30 - 11:10 Case Study #5 - (manufacturing/production/assembly)
 11:10 - 11:20 Break (refreshments for "working" lunch)
 11:20 - 12:00 Case Study #6 - (manufacturing/production/assembly)
 12:00 - 12:45 Sampling Strategies
M. Keyserling
 12:45 Discussion and Closing Comments
 1:00 Adjourn

Accreditation

Occupational Ergonomics: Work Evaluation and Prevention of Upper Limb and Back Disorders has been approved for 2.0 ABIH IH CM points and 2.6 CEUs.
 Nurses: Provider approved by the California Board of Registered Nursing, Provider Number BRN #11154 for 25.7 contact hours.

Ergonomic Job Analysis has been approved for 1.5 ABIH IH CM points and 1.2 CEUs.

Nurses: Provider approved by the California Board of Registered Nursing, Provider Number BRN #11154 for 11.1 contact hours.

Faculty*

Thomas J. Armstrong, Ph.D., CIH,† Professor of Industrial and Operations Engineering, and Director Center for Ergonomics, the University of Michigan. Dr. Armstrong studies biomechanical aspects of hand work, worker health including work-related musculoskeletal disorders, analysis and design of work equipment and procedures, and occupational rehabilitation. He has contributed to many original scientific papers on these subjects and worked extensively with industry to transfer this information into practice.

Don B. Chaffin, Ph.D., PE, CPE,† The R.G. Snyder Distinguished University Professor, and the G. Lawton and Louise G. Johnson Professor of Industrial and Operations Engineering at the University of Michigan. Dr. Chaffin's research has resulted in six books, over 140 peer reviewed journal articles, and over 300 Proceedings, book chapters and reports. He has led a team of students and staff in developing a set of widely used software programs to assist in designing workplaces to ensure that people do not suffer overexertion injuries during the performance of manual tasks. He has been elected Fellow in five different international professional and scientific organizations. He has received many national and international awards for his work, including being elected to membership in the prestigious US National Academy of Engineering in 1994.

Michael Feurstein, Ph.D., ABPP Professor, Department of Medical and Clinical Psychology and Department of Preventive Medicine and Biometrics, Director of the Center for Ergonomics and Workplace Health, Uniformed Services University of the Health Sciences. Dr. Feuerstein's research involves the application of behavioral medicine to occupational health and safety, focusing on identifying the combined role of medical factors and psychosocial and ergonomic stressors in back and upper limb pain. He also conducts research directed at improving quality of care and enhancing functional outcomes related to the prevention and management of occupational musculoskeletal disorders. He is founding editor and Editor in Chief of the Journal of Occupational Rehabilitation.

Ryan Horton, M.S.E., AEP, Ergonomics Consultant, State Compensation Insurance Fund of California. Mr. Horton has been an Ergonomics Consultant with State Fund, the largest workers compensation insurance carrier in California, since 2004. He consults with policyholders in various industries to identify risk factors and propose control measures in industrial settings. Mr. Horton also presents ergonomic information at policyholder seminars and conducts internal training programs for State Fund's Loss Control staff.

Ira Janowitz, PI, CPE, Senior Ergonomic Consultant, University of California San Francisco/Berkeley Ergonomic Laboratory. Mr. Janowitz is a field consultant to labor and industry regarding workplace injury prevention programs, making use of his diverse background with degrees in industrial engineering, management and physical therapy. He has authored several publications regarding the prevention of musculoskeletal injuries.

W. Monroe Keyserling, Ph.D., CSP, CPE,† Professor of Industrial and Operations Engineering, the University of Michigan. Dr. Keyserling teaches courses in Safety Engineering, Ergonomics, Work Measurement and Job Design. Dr. Keyserling has written over 80 journal articles, book chapters, and technical reports in the areas of occupational safety and ergonomics. His major research interest is the prevention of accidents, postural stress, and overexertion injuries through the ergonomic design of workstations, tools, and work methods. He has conducted research and training programs in a number of industries, including: automotive, paper, electronics, trucking, food processing, fibers, clothing, and glass.

Jim Lopes, CIH, Area Manager, Cal/OSHA Consultation Service, Central Valley Area Office. Mr. Lopes has worked for Cal/OSHA 20 years in several capacities, including on-site field industrial hygiene work, conducting off-site safety and health training classes and developing occupational safety and health educational products. Recently he co-authored the publication *Easy Ergonomics*, which is widely distributed throughout California and elsewhere.

Gwendolyn Malone, M.P.H., Ergonomics Manager at General Motor's Powertrain. Ms. Malone's primary duties include managing and coordinating GM's Powertrain ergonomics activities in US, Canada, Mexico and Europe, including plant problem solving, research, developing and maintaining metrics and developing and overseeing ergonomics training. She also works with local and international UAW leaders and participates in local and national labor/management contract negotiations.

Robert Markison, M.D., FACS, Associate Clinical Professor of Surgery, University of California, San Francisco. Dr. Markison also has a private practice in hand surgery. He is an accomplished professional musician and commercial artist. He utilizes his background to design musical instrument interfaces to reduce the risk of hand injury and consults with various industries in the design of tools.

Randall A. Rabourn, M.S., CSP, CPE,† Director of Continuing Education, Center for Ergonomics, the University of Michigan. Mr. Rabourn comes from an industrial background of applying ergonomics principles and in recent years has consulted with several industries in this regard. In addition to administrative duties in the Center for Ergonomics, he directs the University of Michigan Center for Occupational Health and Safety Engineering Continuing Education Program.

Sheryl S. Ulin, Ph.D., CPE, Research Program Officer, Center for Ergonomics, the University of Michigan. Dr. Ulin's research focuses on ergonomic job analysis, work related causes of musculoskeletal disorders, and identifying and evaluating workplace interventions for injury prevention and work accommodation. For many years she has contributed to numerous original scientific papers on these subjects. In addition, she directs a University of Michigan project to provide ergonomic job analysis and training to small and medium sized Michigan companies in manufacturing and service sectors.

* Program faculty and schedule subject to change without notice. † Planning Committee Member

Registration

The Occupational Ergonomics registration fee is \$1495 (\$1395 early-bird) and includes course handout materials, break refreshments, continental breakfast and lunch each day.

The Ergonomic Job Analysis registration fee is \$895 (\$845 early-bird) and includes course handout materials, break refreshments, continental breakfast and lunch both days.

If you register and submit payment on or before January 21, 2006, the early-bird fees will be honored. If you register for both programs, a special combined, discounted registration fee of \$2240 will be honored. To register for either or both courses, please complete the attached form and return it to us as indicated on the form along with charge card information or check payable to UM Conference Management Services. Written cancellation notification must be received no later than February 6, 2006 to qualify for a refund, less \$50.00 administrative fee. Substitute attendees are encouraged - please notify us as soon as possible. In the unlikely event that the program(s) you register for must be cancelled, the entire submitted registration fee for the program(s) will be refunded without further liability on the part of the organizers. **You may also register online with a credit card at www.umcohse-programs.org.**

Location, Lodging and Travel

The programs are being conducted at the Four Points Hotel Los Angeles International Airport, 9750 Airport Blvd., Los Angeles, California. Contact the hotel directly (310/645-4600) to make lodging arrangements stating that you are a registrant for the "Ergonomics" Programs. Special rates of \$109 single, \$129 double are available until February 4, 2006. You are responsible for paying for your hotel accommodations. Details and maps will be provided as a part of registration confirmation information.

General Information

For more registration information, please call Conference Services: 734/764-5297 or email conferences@umich.edu. Look for upcoming program announcements on the Center for Occupational Health and Safety Engineering Continuing Education Web page: www.umcohse-programs.org

Please indicate your desired Course(s)

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\$1495 (\$1395 by January 21, 2006)

Combined fee of \$2240 if registering for both programs

Ergonomic Job Analysis
February 24-25, 2006
\$895 (\$845 by January 21, 2006)

Please Print or Type

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<input type="checkbox"/>	Rehabilitation Specialist
<input type="checkbox"/>	Industrial Hygiene
<input type="checkbox"/>	Safety
<input type="checkbox"/>	OT/PT
<input type="checkbox"/>	Insurance/Workers' Comp
<input type="checkbox"/>	Other

Return with Payment to: UM - Conference Services, 627 Oxford Road, Ann Arbor, MI 48104

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