



Industrial Ergonomic Evaluator Certification Course – On Demand

Jim Mecham, MSIE, OTR/L, CPE

Day 1

Time	Subject	Content	Method of Instruction
9 minutes	Industrial Ergonomic Orientation	Welcomes learners to the course and provides an overview of expectations, navigation, and certification requirements.	Lecture, PowerPoint
45 minutes	Introduction to Industrial Ergonomics	Introduces core definitions of industrial ergonomics and explores its historical development, supported by key data and research that shaped current practices.	Lecture, PowerPoint
40 minutes	Developing an Industrial Ergonomics Program	Covers how to develop and implement an industrial ergonomics program by building collaborative teams and applying OSHA-based injury prevention and first aid strategies.	Lecture, PowerPoint, Material
22 minutes	Anthropometrics	Discusses how human body measurements are used to design workstations, tools, and environments that fit the worker.	Lecture, PowerPoint
16 minutes	Ergonomic Analysis Overview	Introduction to the process of evaluating workplace tasks, including job site analysis, job demands analysis, and the use of common assessment tools.	Lecture, PowerPoint
46 minutes	Ergonomic Risk Factors	Provides a overview of ergonomic risk factors, starting with an introduction to musculoskeletal disorders and defining what risk factors are, exploring individual, physical, environmental, psychophysical, and psychosocial contributors.	Lecture, PowerPoint, Material
11 minutes	Ergonomic Controls	Explores the different types of control strategies — engineering, administrative, and work practice — that are used to reduce workplace risk factors.	Lecture, PowerPoint
28 minutes	Job Modification	Focuses on how to develop and prioritize ergonomic improvements based on identified risk factors, balancing cost, impact, and productivity.	Lecture, PowerPoint
69 minutes	Job Analysis and Ergonomic Process	Walks through the job analysis and ergonomic evaluation process, including how to perform job safety and job demands analyses to identify risks and gather key data.	Lecture, PowerPoint, Material, Video
30 minutes	Day 1 Quiz		Lecture, PowerPoint, Quiz



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Day 2

Time	Subject	Content	Method of Instruction
48 minutes	Low Back Ergonomics	Covers key aspects of low back ergonomics, including cervical pain, the effectiveness of back belts, and major risk factors contributing to low back injuries.	Lecture, PowerPoint
31 minutes	Manual Material Handling Controls	Focuses on strategies to reduce injury risk during lifting, carrying, pushing, and pulling tasks by applying effective ergonomic controls.	Lecture, PowerPoint
37 minutes	Manual Material Handling Work Practice Controls	Discusses how worker technique, task design, and movement patterns influence injury risk during material handling activities.	Lecture, PowerPoint
19 minutes	Ergonomics for Push Pull and Carry	Focuses on evaluating push, pull, and carry tasks, highlighting key risk factors and practical strategies to reduce strain and improve safety.	Lecture, PowerPoint
13 minutes	Sitting and Standing	Explores ergonomic principles for both stationary and dynamic postures, focusing on how prolonged positions impact the body.	Lecture, PowerPoint
8 minutes	Lower Extremity Ergonomics	Covers common lower extremity injuries and risk factors such as prolonged standing, walking, kneeling, and poor footwear.	Lecture, PowerPoint
142 minutes	Ergonomic Job Analysis	Introduce a variety of ergonomic job analysis tools, including OSHA Checklists, REBA, Liberty Mutual Tables, Push/Pull Guidelines, and lifting standards such as ACGIH, Washington State, and NIOSH.	Lecture, PowerPoint, Material
30 minutes	Manual Material Handling Practicum	Guides learners through a hands-on certification exercise where they apply ergonomic assessment tools, such as the NIOSH Lifting Equation and other analysis methods, to evaluate a real lifting task.	Lecture, PowerPoint, Material, Video, Quiz



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Day 3

Time	Subject	Content	Method of Instruction
71 minutes	Upper Extremity Ergonomics	Covers key upper extremity ergonomics principles, including the shoulder, elbow, and hand/wrist, while exploring common conditions such as carpal tunnel syndrome, trigger finger, and DeQuervain's tenosynovitis.	Lecture, PowerPoint
12 minutes	General Upper Extremity Ergonomic Design Recommendations	Outlines best practices for designing workstations and tasks to reduce strain on the upper extremities, focusing on optimizing posture and minimizing force and repetition.	Lecture, PowerPoint, Material, Video
51 minutes	Upper Extremity Ergonomic Tools	Introduce key ergonomic assessment tools, including the Washington State Checklist and Rapid Upper Limb Assessment (REBA), used to identify risk factors in job tasks.	Lecture, PowerPoint, Material, Video
63 minutes	Upper Extremity Ergonomic Case Study	Walks through a real-world case study using ergonomic assessment tools to evaluate upper extremity risks and develop practical, effective solutions.	Lecture, PowerPoint, Material, Video
30 minutes	Resources and Day 3 Practicum	Outlines final steps, including the practicum, quiz, and certification process, while providing guidance on completing required assessments.	Lecture, Video, Quiz