



Midterm Review

Spring 2022





Midterm

- Friday 4/8 14:00 15:35
- One Page Personal Reference Notes
 - 8 ½" x 11" inches
 - May use both sides of paper
 - Notes must be hand written
- Bring a CEAT approved Scientific Calculator
 - Check the syllabus
- Pencil with Eraser
- No hats, no cell phones, no watches

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Test Format

Approx 60 questions

- True/False
- Multiple choice
- Fill in the blank

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Topics covered

- Book Chapters 2,13,10,3,7
- Lectures
 - Ergonomics
 - MSDs
 - Physical & Environmental Stressors
 - Anthropometry
 - Biomechanics
- HW 1, 2, 3, 4 and 5

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Ergonomics

- History and Origins
- Ergonomics and Human Factors
- Risk Factors
- Other Factors
- Ergonomic Controls
- Ergonomic Programs
- Problem solving process

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CTDs and MSDs

- Fatigue vs. recovery
- curve
- Types of MSDs • Symptoms
- Causes
- Pain/Strain/Sprain/Inflammation
 Tendonitis/Epicondylitis
- Bursitis
- · Nerve Compression
- Blood Vessel Compression
- Neuritis
- Carpal Tunnel Syndrome
 Cubital Tunnel Syndrome
- Guyon Tunnel Syndrome DeQuervain's Syndrome
- Ganglion Cysts
- · Neck Tension Synd
- Pronator Teres
- Thoracic Outlet Syndrome
- Trigger Finger
 Reynaud's Disease (White Finger)





Physical & Environmental Stressors

- · Lighting and color
- Lighting design
- Lamp types
- Light Reflective Values (LVR)
- 5's Factory
- Noise
- · Contributes to hearing loss
- · Noise levels
- Interference
- · Approaches to reducing noise in the workplace

- Thermal conditions
- Thermal Stressors
- · Thermal environments
- · Heat Stress
- · Cold Stress
- · Thermal Condition Assessment
- Thermal Comfort Zone
- · Heat Stress Controls
- · Cold Stress Controls





Physical & Environmental **Stressors**

- Vibration
- · Vibration Injuries
- · Vibration Measurement
- · Vibration Controls
- Ventilation
 - · Ventilation rate
 - · What are the effects of CO₂?
 - Measuring CO₂

 - Reducing CO₂





Antropometry

- History and Origins
- Factor affecting anthropometry
- Work design or modification
- Designing for the maximum, the average, the minimum population or adjustable range.
- Expected value, percentiles, and all calculations
- Grip's types

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Biomechanics

- Definition
- Types of body movements
- Classes of movement
- Pressure
- Lever systems
- All calculations

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