

# Human Factors in Design ID-2320: Readings

## WEEK 1

### Introduction and History

David Meister: The History of Human Factors and Ergonomics (Chapter 4)

### Research Methods

<http://www.socialresearchmethods.net/kb/strucres.php>

<http://www.socialresearchmethods.net/kb/desintro.php>

<http://www.socialresearchmethods.net/kb/resques.php>

<http://www.socialresearchmethods.net/kb/destypes.php>

<http://www.socialresearchmethods.net/kb/hypothes.php>

<http://www.socialresearchmethods.net/kb/dedind.php>

<http://www.socialresearchmethods.net/kb/statdesc.php>

<http://www.socialresearchmethods.net/kb/statinf.php>

<http://www.socialresearchmethods.net/kb/measlevl.php>

- [Story: The Lead Casket](#)

## WEEK 2

### Design Evaluation Methods

David Meister: Human Factors in System Design, Development and Testing (Chapter 3)

## WEEK 3

### VISION

Psychology as a Biological Science - Vision

- [Section 3: Vision](#)

- [Story: Deadly Drinks at the Night Club](#)

#### WEEK 4

### **Auditory, Tactile and Vestibular Systems**

Psychology as a Biological Science - Section 3

- [Section 3: Hearing, Touch & Pain, Vestibular System](#)
  
- [Story: Mommy Murderess Escapes Prison](#)

#### WEEK 5

### **Decision Making**

Psychology as a Biological Science -

- [Section 5: Judgement and Decision Making](#)

### **Displays**

The Learning Zone- Visual Displays

<http://www.ergonomics4schools.com/lzone/displays.htm>

- [Story: Manhattan Black Out](#)

#### Week 6

### **Control Systems**

R.S. Bridger "Introduction to Ergonomics" on Control Systems (Chapter 13)

- [Story: Dodging Bullets](#)

#### Week 7

No readings - Exam 1

#### Week 8

## **Anthropometry and Body Measurement**

NASA: Anthropometric and Biomechanics Data

<http://msis.jsc.nasa.gov/sections/section03.htm>

### **Week 9**

## **Biomechanics of Work**

Dan MacLeod: The Rules of Work: a practical engineering guide to ergonomics

OSHA Publications

<https://www.osha.gov/pls/publications/publication.html>

- [Story: Death at Sea](#)

### **Week 10**

## **Stress and Workload**

OSHA Technical Manual

[https://www.osha.gov/dts/osta/otm/otm\\_toc.html](https://www.osha.gov/dts/osta/otm/otm_toc.html)

### **Week 11**

No readings - Spring Break

### **Week 12**

## **Safety**

Gavriel Salvendy: Handbook of Human Factors and Ergonomics (Chapters 25)

MIT OpenCourseware - System Safety Course (readings)

<http://ocw.mit.edu/courses/aeronautics-and-astronautics/16-863j-system-safety-spring-2011/readings/>

- [Story: Machine Designed to Heal Instead Kills](#)

## Week 13

### **Human Computer Interaction and Automation**

Encyclopedia of Human-Computer Interaction:

<http://www.interaction-design.org/books/hci.html>

- [Story: The Wrong Column](#)

#### **Reference Materials:**

Bridger (1995) Introduction to Ergonomics. New York, McGraw-Hill.

Jacko (2012) The Human-Computer Interaction Handbook. Boca Raton, FL, CRC Press.

MacLeod (2013) The Rules of Work: a practical engineering guide to ergonomics. Boca Raton, FL, CRC Press.

Parasuraman (1996) Automation and Human Performance. Mahwah, NJ, Lawrence Erlbaum Associates.

Salvendy (2012) Handbook of Human Factors and Ergonomics, 4th ed. John Wiley.

Vink (2005) Comfort and Design. Boca Raton, FL, CRC Press.

Wickens (2000) Engineering Psychology and Human Performance. Upper Saddle River, NJ, Prentice Hall.

Wickens, Lee, et al (2004) An Introduction to Human Factors Engineering, 2nd ed. Upper Saddle River, NJ Prentice Hall.