IE 479
Human Centered Product Design

Dr. Andris Freivalds
Class #1
Dr. Andris Freivalds

Education
- Ph.D. BioE, Univ. of Michigan, 1979
- M.S. CICE, Univ. of Michigan, 1975
- M.S. BioE, Univ. of Michigan, 1974
- B.S.E. Sci. Engr, Univ. of Michigan, 1972

Career
- Undergrad textbook: Methods, Standards & Work Design
- Grad textbook: Biomechanics of the Upper Limbs
- Assoc. Editor: IIE Transactions, Int. J. Ind. Erg
- 18 PhDs (12 Korean, 6 in progress), 37 MS students
- Director, Center for Cumulative Trauma Disorders Research

Awards
- Fulbright Senior Scholar (University of Nottingham), 1984
- Penn State College of Engineering Outstanding Research Award, 1985
- Technical Innovation Award, Institute of Industrial Engineers, 1995
- Keynote Speech, PPCOE, Seoul, Korea, 1996
- Fellow, The Ergonomics Society, 2000
- Keynote Address, IEA, Seoul, Korea, 2003
- Penn State College of Engineering Outstanding Teaching Award, 2009
IE 479 – Unique Class

• Simultaneous Joint Lectures via Satellite
  – Penn State University (PSU)
  – Seoul National University (SNU)
• Hours: Tu/Th at 8:00 AM (PSU, 9:00 PM SNU)
• Joint Class: Sep 2\textsuperscript{nd} (Thu) → Dec. 9\textsuperscript{th} (Thu)
• Some cultural adjustments: Korean and US Thanksgiving holidays
• Pre-requisite or requirements: Human Factors Engineering (IE 408 or any equivalent)
IE 479 – Instructors

• (Y) Dr. Myung Hwan Yun, Prof. SNU, IE, mxy@snu.ac.kr
• (F) Dr. Andris Freivalds, Prof. PSU, IE, 863-2361, axf@psu.edu
• (H) Dr. Yoosuk Hong, Prof. SNU (on sabbatical at PSU) yhong@snu.ac.kr
• (G) Invited lectures from Korean and US Industries (4-6 invited lectures)
IE 497 - Goals

• To promote mutual collaboration in industrial engineering
• Especially in human factors/ergonomics
• And in product design/development
• To promote international collaborative activity between US and Korean students
  – global engineering
  – multinational companies
IE 497 - Grading

- Midterm (30%) - toward end
- Case Study (25%)
- Project (35%) – both in mixed groups
- Participation (10%) – individual homework
IES 479 - Intro

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Education:
Ph.D. Bioengineering, The University of Michigan, 1979
M.S. Computer, Information and Control Engineering, The University of Michigan, 1975
M.S. Bioengineering, The University of Michigan, 1974
B.S.E. Science Engineering, The University of Michigan, 1972

Research Interests:

- Industrial Ergonomics: Tool design, Job redesign
- Cumulative Trauma Disorders: CTD Center, Article
- Anthropometry: workspace mockup, JACK simulation
- Biomechanics: Lifting analysis I, Lifting analysis II
- Carpal tunnel research with the THING
- Bioengineering: affilation
- Field Research: Apple harvesting, Radio interview, Picking, Employing, Lab simulation, Bucket redesign, Photo, Article
- Work Physiology: Energy expenditure

Courses Offered:
IE 323, Quantitative Methods in IE, II
IE 337 (Classic) Methods, Work Measurement
IE 329 (New), Introduction to Work Design (This is now also offered on-line)
IE 408, Cognitive Work Design
IE 419, Work Design - Productivity and Safety (This is now also offered on-line)
IE 479, Human Centered Product Design
(This is offered on-line, Friends of PSU account, Instructions to follow)
Fill out Background
Enter PSU-account

BACKGROUND INFORMATION

Name________________________ University ____________________________

Telephone________________ E-mail________________ PSU-account_________

English proficiency (self select)  0 (none)  1 2 3 4 5 6 7 8 9 10 (perfect)

Hobbies/Special skills________________________________________________

International experiences (trips, language, etc.) __________________________

What do you expect from this course? _________________________________

Have you had any courses in (list):
Design____________________________________________________________

Human factors________________________________________________________

Statistics____________________________________________________________

Attach a photo: