

# Michigan Human Factors Engineering Short Course



COLLEGE OF ENGINEERING  
**INTEGRATIVE SYSTEMS + DESIGN**  
UNIVERSITY OF MICHIGAN

DESIGNING SYSTEMS, PRODUCTS AND SERVICES TO MAKE THEM EASIER, SAFER, AND MORE EFFECTIVE FOR HUMAN USE

## Improving Human Factors Engineering for **57 Years**

Anywhere there is a person using a system, product or service...

- Mobile Products
- Consumer Products
- Medical Devices
- Websites
- Military Systems
- Vehicles
- Heavy Equipment
- Office Applications

...there is a need for human factors engineering.

Learn more and register for upcoming courses at:  
[isd.engin.umich.edu/HumanFactors](http://isd.engin.umich.edu/HumanFactors)



Crash test laboratory  
at the University of  
Michigan Transportation  
Research Institute.

## Small Group, Hands-on Design Experience

### Learn from People Who Wrote the Book

Work with 13 experts who literally wrote the premier books on Human Factors thinking. But far from just theory, they will give you concepts you can put to work right away.

### Get an Insider's View of Human Factors

You will experience the major topics for design, evaluation, and research that continue to be important, along with current recommendations for common design problems.

### Benefit from Small Group, Hands-on Experience

Learn how to measure human anthropometry, estimate task completion times, and use methods from human-computer interaction such as thinking aloud and heuristic evaluation, and that is just the beginning!

### Select Special Topics of Interest to You

Choose from 14 seminars and workshops. Example topics include: Cognitive task analysis, occupational ergonomic methods, usability testing, root cause analysis, cognitive walkthroughs, and more.

# Program Leader

## **Paul Green, Ph.D.**

Research Professor, University of Michigan Transportation Research Institute and Adjunct Professor/Research Professor, Department of Industrial and Operations Engineering. Email [pagreen@umich.edu](mailto:pagreen@umich.edu), phone +1 (734) 763-3795.

# Instructors

## **Deborah Boehm-Davis, Ph.D.**

Professor of Psychology and Dean of the College of Humanities and Social Sciences, George Mason University

## **Bruce Bradtmiller, Ph.D.**

Owner and President, Anthrotech

## **Neil Charness, Ph.D.**

Professor of Psychology, Florida State University

## **Richard Jagacinski, Ph.D.**

Professor of Psychology, Ohio State University

## **Debra Jones**

Principal Research Associate, SA Technologies

## **Richard Hughes, Ph.D.**

Associate Professor of Orthopaedic Surgery; Biomedical Engineering; Industrial and Operations Engineering, University of Michigan

## **Clayton Lewis, Ph.D.**

Professor of Computer Science, University of Colorado

## **Mark Newman, Ph.D.**

Assistant Professor, School of Information, University of Michigan

## **Nadine Sarter, Ph.D.**

Professor of Industrial and Operations Engineering, University of Michigan

## **F. Jacob Seagull, Ph.D.**

Associate Professor of Medicine, University of Michigan

## **Douglas Wiegmann, Ph.D.**

Associate Professor of Industrial and Systems Engineering, University of Wisconsin

## **Kentaro Toyama, Ph.D.**

W.K. Kellogg Associate Professor of Community Information, University of Michigan

# Register Today!

Visit our Human Factors program web page at [isd.engin.umich.edu/HumanFactors](http://isd.engin.umich.edu/HumanFactors), send an email to [isd-answers@umich.edu](mailto:isd-answers@umich.edu) or call (734) 647-7200 to enroll.

# 2017 Program Dates

Register for Week 1, Week 2, or Both!

- Week 1: July 24-29
- Week 2: July 31 - August 4

Ann Arbor, Michigan

# Program Components

**Week one** of this intensive course is a broad survey of human factors topics important to designers and researchers.

- Introduction to human factors
- Advanced displays
- Anthropometry
- Cognitive task analysis
- Human error
- Human-system integration
- Human vision
- Manual task analysis
- Motor skills and manual controls
- Occupational biomechanics (two lectures)
- Perception, memory and cognition
- Situation awareness
- Visual displays
- Workload

**Week two** presents an overview of major topics and issues in human-computer interaction together with mini-workshops and seminars on selected principles, methods, and procedures providing the foundation for effective human-computer systems and web application design.

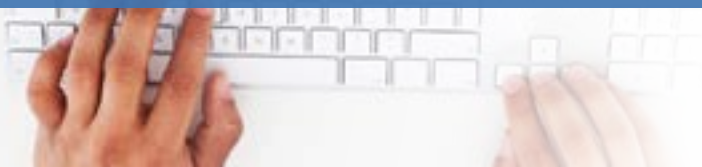
- Trends in human-computer interaction
- Automation
- Cognitive task analysis
- Collaborative and social computing
- Cost-benefit analysis
- Environmental Ergonomics
- GOMS task analysis
- How to apply human factors material
- Inclusive design
- Screen and widget design
- Software human factors
- Speech interfaces
- Usability testing
- User interface evaluation methods
- Web interface design

For further detailed course information, visit [isd.engin.umich.edu/HumanFactors](http://isd.engin.umich.edu/HumanFactors).

## Degrees of Success

Whatever your professional dreams, you'll be a step ahead with exceptional graduate degree programs offered through the University of Michigan. These programs are immediately useful and relevant and some can be completed entirely online.

Visit our website at [isd.engin.umich.edu](http://isd.engin.umich.edu) to learn more.



## What People are Saying About U-M Human Factors

“The expert lecturers, organization, interactive nature, and demonstrations were most valuable.”

“Varied content, references, and new contacts reinforce similarities in Human Factors and Ergonomics principles through different industries.”

“Appreciated the level of expertise here—course was given by industry leaders and level of interaction was great, particularly for the BCPE exam.”

“The mix of workshops and seminars kept the material fresh and interesting.”

### Who Should Attend

This course is intended for those interested in human factors, usability, ergonomics, or human-computer interaction. Many participants are not human factors specialists, but mechanical engineers, electrical engineers, psychologists, and others for whom human use of systems is a concern. Attendees typically work for industry, government, or the military.

- Human factors specialist
- Human factors engineer
- Human factors psychologist
- Engineering psychologist
- Usability engineer
- User experience engineer
- Usability analyst
- Ergonomist
- Ergonomics engineer
- Safety engineer
- Forensic expert
- Training needs analyst
- Systems/integration engineer

### Take A Closer Look at U-M Human Factors

Watch a YouTube video about the program at: <http://youtu.be/IGOLPLyHkOw>

View photos of class sessions, group work, tours and more. Visit <http://goo.gl/xmVMlf> to view galleries from the past several years.





## About Michigan Engineering and Integrative Systems + Design

The University of Michigan's College of Engineering was founded in 1853. Today, Michigan Engineering and its academic departments rank in the top ten in their respective areas (U.S. News and World Report). The faculty's ongoing research and industry consultation in engineering contribute to Michigan's strength and impact on professional development. Michigan Engineering's research expenditures for fiscal 2014 totaled \$217.9 million, placing it in the forefront of collegiate engineering research in the U.S.

Integrative Systems + Design (ISD), a division of Michigan Engineering, offers credit courses to students on campus and at locations around the world. Recognized as a global leader in online education in addition to offering on campus programs, ISD provides lifelong learning to technical professionals, and has served more than 100,000 with intensive short courses, conferences, professional certifications, and online advanced degree and certification programs.

ISD responds to the needs of industry, healthcare, government, the military, and non-profit organizations with specialized education programs.

For more information about ISD, visit [isd.engin.umich.edu](http://isd.engin.umich.edu)  
Questions? Email [isd-answers@umich.edu](mailto:isd-answers@umich.edu)

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