# Human Factors and Automotive Standards: YouTube Series Overview

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**Integrative Systems + Design**
**University of Michigan**

NIST
**National Institute of Standards and Technology**
U.S. Department of Commerce

**I am a researcher & faculty member at the University of Michigan who has been involved in research, developing standards, and teaching about them for ~40 years.**

- Leader of Driver Interface Group (research)
- teach in Industrial and Operations Engineering (IOE)
    Integrative Systems and Design (ISD)
- involved w/ standards development organizations
- written/edited standards
  SAE
  ANSI
  ISO

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**There are 5 videos (and associated PowerPoint slide decks) in this series.**

1. Introduction (this) video
2. Human factors standards – HF short course

    Part 1 – Introduction to standards and ISO

    Part 2 – How to find them

    Part 3 – Core human factors standards
3. Automotive human factors standards – IOE 437 (Automotive HF)

    Part 1 – Sources of information

    Part 2 – ISO

    Part 3 – non-ISO sources

4. Human-computer interaction standards – IOE 436 (HCI)

Part 1 – ISO 9241

Part 2 – SQuaRE - Systems and software Quality Requirements

and Evaluation – ISO 2506x

5. Core SAE vehicle standards – supplement to 437, other purposes

Part 1 – Core, classical standards

Part 2 – Newer vehicle technology

PowerPoint slides at:

- www.umich.edu/~driving
- National Institute of Standards and Technology (NIST) Standards Coordination Office (URL tbd)

# A good first reference is the Breitenberg NIST technical report.

Breitenberg, M.A. (2009).  *The ABC's of Standards Activities*
(technical report NISTIR 7614),
Gaithersburg, MD: U. S. Department of Commerce,
National Institute of Standards and Technology.

Also search for
"training offered by standards developing organizations"

# Several standards development organizations have produced introductions to standards.

| ANSI | search for "education and training" *(show page)* |
|------|------|
| | StandardsLearn.org *(show page)* |
| | Standards Education Database (178 entries) |
| | "onboarding" tutorial being developed by ANSI Committee on Education |
| | University Outreach Program |
| ASTM | search for "standards on campus," *"professor's toolkit"* |
| | webinar on standards development process |
| | provides free standards for students |
| IEEE | search for "standards education" *(show page)* |
| | IEEE standards Association (IEEE – SA) = standards.IEEE.org |
| | courses -> IEEE Standards University |
| SAE | search for "standards in the classroom" |

# To find standards of interest, use standards search engines, not Google.

**https://www.nist.gov/standardsgov/learn-how-find-standards**

- Document Center Inc. (http://www.document-center.com/home.cfm)

- IHS (http://www.global.ihs.com/)

- TechStreet (http://www.techstreet.com/)

http://www.nist.gov/standardsgov/
standards-organizations-offer-free-access-their-standards

# If you need to apply any standard or guideline listed in these videos, get (often purchase) the original.

The goal of this video series is to highlight the value of these standards and guidelines and encourage others to learn more about (and obtain) them.  The coverage of each document is brief, and potentially, incomplete.  If you are going to publish a paper or report, or design a product, or evaluate a system, you need complete knowledge of the relevant standards and guidelines, which means studying the originals.

Often, documents from ISO, SAE, ANSI, and others are not free.  However, by not spending $100 to instantly obtain the full facts, a project with 1000 times the budget, could be jeopardized.

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Those with questions should contact:

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# Thank you NIST for supporting development of these materials.

**NIST**
National Institute of Standards and Technology
U.S. Department of Commerce

**SCO**
Standards Coordination Office
National Institute of Standards and Technology

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*For more information, Google*
*"U. of Michigan Human Factors Engineering Short Course"*
*"Center for Ergonomics"*

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