

### Spring 2017

INF 385T - Fundamentals of  
Human-Machine Interaction  
Unique: 28002  
Room: UTA 1.204  
Mon 12:00pm - 3:00pm

### Instructor

Eric Nordquist  
eric.nordquist@ischool.utexas.edu

### Office Hours:

UTA 5.426  
Mon 3:00pm - 4:00pm  
and by appointment

### TA

Elizabeth Harp  
msbharp@gmail.com

## Course Description

Human Factors, Usability, Human Computer Interaction, Engineering Psychology, User Experience, Experience Design, UX, Service Design, IxD, VxD, xD.....what is it all!!!!

Despite the numerous variants that have emerged over the years, each with their own focus and subtle distinction, there is one fundamental piece that has remained consistent. At the root is a relationship where a human being is interacting with a machine. The myriad of titles above are typically brought in to create, design, fix, improve, and research this Human-Machine relationship.

Studying this relationship is the focus of this course and at the end you should be better prepared for whichever title you end up pursuing. We will investigate the Human-Machine relationship as a single process and dive in to the human aspects of this relationship. The thought being if you understand the human and what his/her needs are in the relationship, then you will be better equipped to influence the machine part of the relationship in a way that will lead to a successful, communicative partnership.

### The class will cover three major areas:

1. the historical foundations of Human Factors
2. the scientific underpinnings of the Human side of the relationship including topics such as perception, cognition, human-information-processing, object perception, and expert and expert systems
3. case studies reflecting on the methods and outcomes of a focus on human machine interaction in the development of software and hardware products and services

### Objectives:

The student successfully completing this class will:

- understand the historical timeline and driving forces for the field of Human Factors
- have topical knowledge across the major disciplines of Human Factors specialties including Cognition, Decision Making, Expertise, and Ergonomics, and many more
- gain the ability to leverage this knowledge as they move on through their coursework in design and product development

### Grades:

Your grade will be based participation

### Attendance:

Attendance matters. When you aren't here, you deprive your classmates of your shared wisdom.



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### Misc

- Any student with a documented disability (physical or cognitive) who requires academic accommodations should contact the Services for Students with Disabilities area of the Office of the Dean of Students at 471-6259 (voice) or 471-4641 (TTY for users who are deaf or hard of hearing) as soon as possible to request an official letter outlining authorized accommodations.

- Policy on Scholastic Dishonesty: Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University.

### Textbooks:

Proctor, R.W., & Van Zandt, T. (2008). Human Factors in Simple and Complex Systems (2nd ed.). Boca Raton, FL: CRC Press. ISBN-10: 0805841199

Casey, S. M. (1998). Set phasers on stun: and other true tales of design, technology, and human error. Santa Barbara: Aegean. ISBN-10: 0963617885

Norman, D. (2013). The Design of Everyday Things: Revised and Expanded Edition. New York: Basic Books. ISBN-10: 0465050654

### Other Readings:

TBD and will be supplied in Canvas ahead of our class meeting.



Schedule:

CLASS	DATE	TOPICS	COME PREPARED TO DISCUSS
1	1/23	Introduction Proctor Ch.1 - Historical Foundations...	
2	1/30	Proctor Ch. 4 - Human Information Proce...	Article - Gilbreth_Surgeons Article - Atkinson_Shiffrin_Memor...
3	2/6	Proctor Ch. 6 - Object Perception Gestalt	Article - UserTesting_Gestalt Article - Teamtreehouse_Gestalt
4	2/13	Proctor Ch. 9 - Attention and the Assessment... Invisible Gorilla	3 Articles - UserTesting_Limited Atte..., Perjury_Conviction, Gorilla_xray
5	2/20	Review example in applied settings: Read Wired_Disney, Disney_MagicBands_iaapa, and Set Phasers on Stun Ch. 1, 2, 3.	
6	2/27	Proctor Ch. 8 - Display of Visual, Auditory...	Article - Endsley_SA
7	3/6	Proctor Ch. 15 - Controls and Controlling Act...	Article - Chapanis_Shade_Coding Article - Adapted_Fitts
8	3/13	NO CLASS - SPRING BREAK	
9	3/20	Proctor Ch. 11 - Solving Problems and...	Article - 3_Million_Button Article - Hattula_Empathy
10	3/27	Social Psychology Applications	3 Articles - Robotic_Work, Nasmoon, and Mockingbird
11	4/3	Proctor Ch. 12 - Experts and Expert Sys...	Article - AED_design Article - Virtual_Surgery
12	4/10	Proctor Ch. 16 - Anthropometrics and Work... Proctor Ch. 17 - Environmental Ergonomics	Article - Multisensory_..., UX_Workp... Set Phasers - Ch. 1, 2, 3, 4
13	4/17	DOET - Ch. 1 & 2	Set Phasers - Ch. 5, 6, 7, 8
14	4/24	DOET - Ch. 3 & 4	Set Phasers - Ch. 9, 10, 11, 12
15	5/1	DOET - Ch. 5 & 6	Set Phasers - Ch. 13, 14, 15, 16