Human Factors Engineering

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Summer 2023
EM 6722 – Human Factors Engineering
Course Syllabus

Instructor: Dr. Robert S. Keyser, Associate Professor
Preferred Email Address: Prefer D2L e-mail, alternately rkeyser@kennesaw.edu
Office: M 113A
Phone: 470-578-7339
Office hours on-campus and online: M 3:00pm-6:00pm and by appt.
Class meeting time and location: M 6:00pm-7:30pm (via MS Teams)

Electronic Communications Statement

The best way to reach me between class periods is using the D2L email. This way I will know what class you are in. I will reply as quickly as possible to questions sent over e-mail. If you wish to meet with me in person, you can drop by my office during office hours. For online students, I am also willing to meet with you with an ad-hoc MS Teams live session during the week if necessary.

Email Response Time

I try to answer all emails within 48 hours from the time you first transmit the email, unless I let you know in advance of travel prohibiting me from doing so (or if I have an emergency). This short response time includes weekends and holidays. At times, I will send a mass email to the class or an announcement. This will be through D2L email and alternately with the campus mail. I do not know your Yahoo or Gmail accounts so do not expect any mass emails to those accounts. CHECK YOUR D2L EMAIL ACCOUNTS FREQUENTLY!
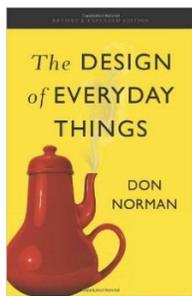
Required Textbook
The Design of Everyday Things (Revised and Expanded Edition), Don Norman, Basic Books, 2013. ISBN: 978-0-465-05065-9

Course Description

Human Factors Engineering is a comprehensive survey of human factors theory, research, and applications which are of relevance to the workplace and life, in general. Emphasis will be placed on human-centered design principles in work processes, workplaces, and instrumentation from a product designer's perspective.

Course Learning Outcomes

Students will be able to:
1. Discuss the three major areas of design.
2. Describe the Human-Centered Design (HCD) philosophy.
3. Discuss the Fundamental Principles of Interaction.
4. Identify the Seven Stages of Action and the Three Levels of Processing.
5. Describe the Seven Fundamental Design Principles.
6. Discuss why and how errors occur.
7. Differentiate between a good vs. bad conceptual model.

Course Prerequisites

Admission into the MSEM program.

KSU D2L Brightspace

This course has a D2L course web site for use by registered students. Any class handouts, slides, grades, announcements, and links will be available there, so please get in the habit of checking it often. To log in, go to: https://kennesaw.view.usg.edu/. Your logon is the same as your KSU Net ID, and your net password. There are help links on the website too.

Class Schedule/Attendance

This course will meet via MS Teams on Mondays. This is a 100% online synchronous course, although significant asynchronous outside work, such as viewing the pre-recorded PowerPoint videos, reading the book and any handouts, will be required to replace what would typically be the other 75-minute class period. Attendance is strongly recommended for this course. Students who miss the live class for any reason are NOT exempt from the material covered during the class period(s) the student misses.

Course Schedule

This course will meet on the dates indicated on the Course Schedule as posted on the course homepage.

Assessment by Quizzes

You will have (1) Syllabus quiz in this course. The quiz is a timed, 75-minute online quiz in D2L. Students will receive their grade after completing the quiz. Online quizzes will open after the deadline has passed. Quiz feedback for all questions will be provided once the quiz opens within 3 days after the assignment due date.

Assessment by Discussion Video Posts

There will be (2) Discussion Video Post assignments based on your viewing of short YouTube videos in the Discussions tab. These are two-part assignments: (1) You begin a thread by replying to questions given in the assignment, and (2) Your reply to another's post. The Discussion Video interaction consists of graded assignments within three days of the due date using the rubric that is attached to the respective Discussion Video.

Assessment by Homework

All (7) homework assignments are due in Dropbox before class on the due date/time listed in the Course Schedule. You must complete these graded assignments and upload into the appropriate D2L Dropbox only. Any other method of assignment submission will not be accepted or graded (i.e., KSUmail). HW feedback for all questions will be provided within 3 days after the assignment due date.

Assessment by Exams

The Final Exam will be an open-book/notes, working alone without any external help, comprehensive online exam covering the book for this course. The Final Exam is a timed, 75-minute exam that can be accessed in the Quizzes tab in D2L. It consists of 25 questions (multiple choice, matching, and True/False). You will receive your grade after completing the exam. The Final Exam will open the day after the deadline has passed. Exam feedback for all questions will be provided once the quiz opens within 3 days after the assignment due date.

Grading Policy

Your final grade in this course will be determined using the following weights for each component of this course:

Component	Weight
(7) HW Assignments	70%
(2) Discussion Video Posts	20%
Final Exam	10%
Total	100%

Grading Scale

90 – 100 = A
80 – 89.9 = B
70 – 79.9 = C
60 – 69.9 = D
59.9 and below = F

Note: There is no extra credit for this course.

Late Work

No late assignments will be accepted. All assignment submissions are timestamped in D2L. Any assignment flagged as "late" (even < 1 min late) will receive a grade of zero. Please submit all assignments before the deadline. This policy is strictly enforced and there will be no exceptions.

Attendance Policy

1. All students are expected to attend all class sessions beginning with the first class session and continuing all the way through Final Exam Week.
2. Students who miss class for any reason are not exempt from the material covered during the class the student misses.
3. Interaction between the instructor and students for our Live Sessions occurs during open discussions and while working through problems.

4. The instructor is not responsible for assisting students catch up on class material when the student is absent from class.
5. Your attendance will not directly impact your grade in this course unless you are absent for an Exam or if you fail to complete an Assignment on time.
6. It should be noted that students who attend class on a regular basis normally perform better on the Assignments and on Exams.
7. However, simply being present in class does not guarantee that the student will receive a high grade or a passing grade in this course.

Calculators/Software

You will need access to a calculator and/or Excel capable of performing basic engineering and/or financial math functions (available in the computer labs). All exams you will be allowed use of Excel on the classroom computers as well as pocket calculators.

Technology Skills Needed

All students are expected to be familiar with:
1. Connecting to the internet.
2. Logging in to the course website (i.e. D2L Brightspace).
3. Using internet browsers (e.g., Internet Explorer, Firefox, Chrome, etc.).
4. Downloading and opening PDF, Word, and Excel documents.
5. Elementary use of Excel including Cell Referencing and using Math Functions, no VBA required.

Withdrawal

Students who find that they cannot continue in college for the entire semester after being enrolled, because of illness or any other reason, need to complete an online form. To withdraw from classes completely or partially at KSU, a student must withdraw online at www.kennesaw.edu, under Owl Express, Student Services.

The date the withdrawal is submitted online will be considered the official KSU withdrawal date which will be used in the calculation of any tuition refund or refund to Federal student aid and/or HOPE scholarship programs. It is advisable to print the final page of the withdrawal for your records. Withdrawals submitted online **prior** to midnight on the last day to withdraw without academic penalty will receive a "W" grade. Withdrawals **after** midnight will receive a "WF". Failure to complete the online withdrawal process will produce no withdrawal from classes. Call the Registrar's Office at 770-423-6200 during business hours if assistance is needed.

Students may, by means of the same online withdrawal and with the approval of the university Dean, withdraw from individual courses while retaining other courses on their schedules. This option may be exercised up until the W date on the Academic Calendar (on Registrar's website). Failure to withdraw by the W date will mean that the student has elected to receive the final grade(s) earned in the course(s). The only exception to those withdrawal regulations will be for those instances that involve unusual and fully documented circumstances. In these rare cases, the policies of the university regarding hardship withdrawals will be strictly followed.

If any remaining coursework cannot be completed by the last class day, the instructor of this course will only consider assigning an incomplete grade to a student with an unusual and fully documented circumstance (must be verified by department chair or college dean), who is passing the course within two weeks of the last class day. If the final exam is among the assignments, the student's grade will remain an "F" until it is taken, after which a grade change form will be submitted to the registrar, if necessary, once the other agreed upon conditions are met.

KSU Diversity Vision Statement

It is our vision to create a strong multicultural and diverse educational environment at KSU to increase student satisfaction and to promote an understanding and awareness of people from various backgrounds upon graduation. In this way, KSU students will be educated for, and can effectively compete in the global society.

Course Enrollment Status Statement

Students are solely responsible for managing their enrollment status in a class; nonattendance does not constitute a withdrawal.

Student Support Resources – Strategies for Success

- Library, Tech Support, Tutoring, Writing Center, Advising, Bookstore, Resource Guide, Online Courses, other support resources: https://ols.kennesaw.edu
- Accessibility Statements or VPAT for Technologies: https://softchalkcloud.com/lesson/serve/jV10GKPfztZwQn/html
- Academic and Student Services: http://www.kennesaw.edu/currentstudents.php

Academic Honesty/Integrity/Ethics Statement

Every KSU student is responsible for upholding the provisions of the Student Code of Conduct, as published in the Undergraduate and Graduate Catalogs. Section 5c of the Student Code of Conduct addresses the university's policy on academic honesty, including provisions regarding plagiarism and cheating, unauthorized access to university materials, misrepresentation/falsification of university records or academic work, malicious removal, retention, or destruction of library materials, malicious/intentional misuse of computer facilities and/or services, and misuse of student identification cards. Incidents of alleged academic misconduct will be handled through the established procedures of the Department of Student Conduct and Academic Integrity (SCAI), which includes either an "informal" resolution by a faculty member, resulting in a grade adjustment, or a formal hearing procedure, which may subject a student to the Code of Conduct's minimum one semester suspension requirement.

The high quality of education at Kennesaw State University is reflected in the credits and degrees its students earn. ***All assignments that take place in and out of the classroom must be your own work and original for this course***. The protection of these high standards is crucial since the validity and equity of the University's grades and degrees depend upon it. Any student found to have violated any KSU academic honesty regulation after a hearing before a university hearing panel or before the Vice President for Student Success and Enrollment Services (or his/her designee) shall be suspended for at least one semester, unless the student persuades the deciding body that the circumstances of his or her behavior substantially mitigate the gravity of the violation. These regulations are designed to assist students in (1) developing appropriate attitudes about, and (2) understanding and following

the university's standards relating to academic honesty. The regulations protect students by helping them avoid committing infractions that may compromise the completion of their KSU degrees or damage their reputations.

Student Conduct Pledge/Statement: *As a member of the Kennesaw State University community of scholars, I understand that my actions are not only a reflection on myself, but also a reflection on the University and the larger body of scholars of which it is a part. Acting unethically, no matter how minor the offense, will be detrimental to my academic progress and self-image. It will also adversely affect all students, faculty, staff, the reputation of this University, and the value of the degrees it awards. Whether on campus or online, I understand that it is not only my personal responsibility, but also a duty to the entire KSU community that I act in a manner consistent with the highest level of academic integrity. Therefore, I promise that as a member of the Kennesaw State University community, I will not participate in any form of academic misconduct.*

Types of Academic Misconduct:

1) **Cheating:** Receiving, attempting to receive, knowingly giving or attempting to give unauthorized assistance in the preparation of any work required to be submitted for credit (including examinations, laboratory reports, essays, themes, term papers, etc.) is considered cheating, as is engaging in any behavior that a professor prohibits as academic misconduct in the syllabus or class discussion. Unless specifically authorized, using and/or having access to electronic devices during an examination, quiz, test or other assessment is automatically considered cheating, regardless of the student's reason for using/accessing the device;

2) **Plagiarism:** Including direct quotations from other sources into work required to be submitted for credit without indicating them as such by quotation marks, block quotes or other appropriate formatting. Incorporating the work of someone (e.g. ideas, theories, data, figures, graphs, programs, electronic based information, illustrations, etc.) into a paper or project without due acknowledgement;

3) **Self-Plagiarism:** Submitting any work for credit which was not authored specifically and originally for the assignment in question without the prior permission of the professor receiving that assignment. Most commonly, this means submitting the same, or substantially the same, paper or other assignment for credit in more than one class;

4) **Misrepresentation and/or Falsification:** Knowingly providing false information in completing University forms or applications (including admissions forms, scholarship applications, time sheets, false or counterfeit transcripts, etc.) or in any work submitted for credit. This includes providing fabricated/altered documents to substantiate an excused absence (such as to meet attendance requirements or have the chance to make-up a missed exam). Signing in for another student or having another individual sign in on a student's behalf on an attendance sheet also constitutes a violation of this code section.

5) **Unauthorized Access to University Materials:** Taking, attempting to take, stealing or in any unauthorized manner otherwise procuring, gaining access to, altering or destroying any material pertaining to the conduct of a class (including tests, examinations, grade change forms, grade rolls, roll books, laboratory equipment, University grade records in written or computerized form, etc.).

6) Malicious**/Intentional Misuse of Computer Facilities/Services:** Maliciously or intentionally misusing university-controlled computer facilities and services. This includes violations of state and federal laws (e.g. copyright violations, unauthorized access to systems, alteration/damage/destruction, or attempted alteration/damage/destruction, use for profit, etc.) or a department's rules for computer usage (e.g. account violations, damage, or destruction of the system and/or its performance, unauthorized copying of electronic information, use of threatening or obscene language, etc.).

7) Malicious **Removal, Retention or Destruction of University Resource Materials**: Misplacing, taking, destroying any item or part of an item belonging to or in the protection of the University (or the attempt thereof) with the intention of bringing about an undue disadvantage in the academic pursuits of other Kennesaw State University students.

These examples of academic dishonesty shall not be construed to be comprehensive, and infractions will be dealt with on an individual basis according to university policies and procedures. It is the obligation of each student to assist in the enforcement of academic standards.

See: The KSU Student Code of Conduct at KSU Codes of Conduct-2015.pdf

Enforcement: This policy is strictly enforced. Please note, ***I reserve the right to select any paper and/or assignment that are turned in for a grade for plagiarism review. Plagiarism review consists of running your paper/assignment through various search engines and databases at my disposal in order to check for "borrowed" or "bought" information. Students will be required to use TurnItIn.Com to have their papers reviewed for plagiarism.*** If you are found in violation of academic dishonesty, then you will be subject to the enforcement policies and procedures, as outlined by the University and the Department.

Disruption of the Classroom

Faculty members are responsible for maintaining discipline in the classroom setting to the extent that all students in that class have an opportunity to participate in the learning process. Free exchange of ideas through appropriate dialogue is a necessary and important part of the learning process. Outside the classroom, other areas of the campus provide support services, which are also important to the total learning process. Sometimes the faculty or staff member may be confronted with a situation where the conduct of a particular student or students is so inappropriate that it impedes the natural and necessary learning process. All incidents of disciplinary violations of the KSU Student Code of Conduct outside of residence hall property shall be reported to the Department of Student Conduct and Academic Integrity (SCAI).

- If the situation is not imminently dangerous, the faculty or staff member may control the immediate situation by requiring the student(s) to meet specific criteria (not speaking during the remainder of the class period, leaving the classroom or office area immediately, etc.), or the faculty member may choose to dismiss the class for the remainder of the period to avoid a confrontation.
- In situations where a student's conduct is both disruptive and poses imminent danger to the health and safety of himself/herself or others, immediately contact the KSU Police at (470) 578-6666. The responding officer at the time of notification shall remove the student from the area immediately.

- Immediately report the incident to the SCAI Dept. and/or the Office of the Dean for Students and for possible handling under the "Interim Suspension" policy, described in Section III below.
- The SCAI officer will investigate the incident and will advise as to the appropriate course of action in each situation.
- See http://scai.kennesaw.edu/students/general-info/conduct-violation.php for more information.

Student Records/FERPA

Kennesaw State University adheres to the Family Educational Rights & Privacy Act of 1974 – FERPA. See the following link for more information: https://ferpa.kennesaw.edu/

Student Rights and Responsibilities

Students of Kennesaw State University are entitled to an environment that is conducive to learning and individual growth. To this end, students enrolling at Kennesaw State University assume a responsibility to abide by the policies and regulations expressed in this section. By doing so, students may fulfill their responsibilities and enjoy the exercise of their own rights while also respecting the rights of others. All rights and responsibilities may be found in the University Catalog at catalog.kennesaw.edu.

Sexual Misconduct Policy

Kennesaw State University adheres to KSU's policy prohibiting sexual misconduct both in and out of the classroom. Questions about this policy should be directed to the KSU Equal Employment Opportunity (EEO) and Title IX officer by telephone at (470) 578-2614. You may also visit the University's EEO website: https://scai.kennesaw.edu/procedures/sexual-misconduct.php for more information.

Americans with Disabilities Act (ADA) – Support Services

In compliance with applicable disability law, qualified students with a disability may be entitled to *reasonable accommodation*. Any student with a documented disability (hidden or visible) needing academic adjustments, including classroom or test accommodations is requested to notify the instructor within the first two weeks of the course. Verification from KSU disAbled Student Support Services is required. All discussions and documentation will remain confidential.

Disabled Student Support Services:

Joe Mack Wilson Student Center, Suite 160, 470.578.6644

Please visit the https://sds.kennesaw.edu/ for more information.

Curriculum, Instruction, and Assessment Policies

KSU's Curriculum, Instruction, and Assessment policies can be found at this website:
https://cia.kennesaw.edu/instructional-resources/syllabus-policy.php

Copyright Law

Kennesaw State University adheres to USG's policy to respect the right of copyright. Holders and comply with copyright laws as set forth in the United States Copyright act. For more information, see the following link to USG's policy: http://www.usg.edu/copyright/

Web Accessibility

Kennesaw State University follows the guidelines of the Universal Design for Learning standard of web accessibility. Faculty use Word, PDF, and HTML formats when communicating electronic information to students whenever possible and appropriate in light of the goals of the course. Faculty are trained to use Web Accessibility Evaluation tools, e.g., WAVE (www.wave.webaim.org), and make adjustments as possible and appropriate in light of the goals of the course. For free resources available to students on web accessibility, please visit the Web Accessibility Resources page at the Distance Learning Center: http://www.kennesaw.edu/dlc/facultyresources/index.php#

Electronic Recording and Social Media

Electronic recording performed without the consent of the people being recorded chills the free exchange of ideas. Academic freedom, free inquiry, and freedom of expression should not be limited by the fear that one's brainstorming, polemic discourse, speculative inquiry, or any other kind of expressed curiosity made within the space of a university classroom will be made public without one's consent. This fear is unacceptable regardless of whether one is in an online, hybrid, or face-to-face classroom setting. Accordingly, no person shall make public any electronically recorded class discussion without the written permission of the instructor. This policy is not intended to discourage electronic recording in the classroom or the use of social media when such actions are performed with the written consent of the instructor, and others as appropriate. Note: Faculty accommodate all reasonable requests to electronically record a class discussion; these requests must be documented by the DisAbled Student Support Services available at: https://sds.kennesaw.edu/