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Fall 2015

NAME 4097

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University of New Orleans

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Human Factors Course Information – Fall 2015

HFE 1 for NAME Class 4097

Instructor

Instructor: Professor Thomas G. Dobie, Adjunct Professor NAME, and Director and Human Engineering Head, National Biodynamics Laboratory, College of Engineering, University of New Orleans.

E-mail: tdobie@uno.edu

Office: 931 Engineering Building

Phone: 280 7182

Office hours: Monday and Wednesday at 1pm - 3pm, or send me an e-mail.

Classes and attendance

CLASS 4097 Human Factors Engineering 1 - Location: EN 315.

Class hours: 1100 hours am to 1215 hours pm on Tuesday and Thursday, weekly.

Your attendance at every class session is important. Please initial the attendance sheet at the beginning of each class. If you are unable to attend class (illness, conflicts with other classes, etc) inform me by e-mail, before the absence, or as soon as possible to avoid negative effects on your final grade (see Grading)

Learning Objectives

The overall objective of this course, HFE 1, is to provide a thorough knowledge and understanding of generic human factors engineering essential to the engineer, to ensure optimal efficiency in the design and operation of a system or plant. Second it also provides a basic knowledge of relevant anatomy, physiology, perception and cognition to explain the relationship to optimal workspace and system operation. In general, the course also provides knowledge of the research methods of evaluating human responses to a crewmember's stress and workload. By stressing and demonstrating the importance of generic human factors, this also leads to the applications that are appropriate to these operations in a motion environment; the objectives that are contained in HFE 2 in the spring semester.

References

The primary references for the course are my notes.

There are several comprehensive text books. Some of them you should consider for your professional reference library. The main textbook is:

Wickens, C. D., Lee, J. D., Liu, L., Gordon Becker, S. E. "An Introduction to Human Factors Engineering", 2nd. Edn., 2004. (ISBN: 0-13-183736-2).

Homework

Homework assignments will be given out in class about every two weeks. Due dates will be specified on the problem sheet (usually 1 week after they have been issued).

- Be on time with your homework. Late submission of homework will only be accepted if I get an explanation before the due date.
- It is up to you if you want to use a text processor for homework preparation. Neatly handwritten homework is fine. Please, do not use both sides of the paper and avoid using a pencil.
- Poorly structured and/or illegible homework will be returned for rework.
- Turn in your homework with the problem sheet on top. Put your name and Student ID Number on the problem sheet!

Laboratory

This course may have a lab portion; depending upon the availability of research equipment..

Exams

There will be a mid-term exam (75 minutes) and a final exam according to the University schedule. All exams will be open notes.

Homework will be related to specific lecture topics that will be specified on the Homework Sheet.

The Mid-Term Exam will include the subject matter included in all the hand-outs up to that point unless any specific hand-outs are excluded by the Instructor..

The Final Exam will be comprehensive and include all of the hand-outs given out on the course, unless any specific hand-outs have been excluded by the Instructor.

Although the mid-term and final exams. are both “open book”, please bear in mind that the amount and difficulty of problems will not allow a great deal of searching and re-reading of handouts during the exams. Get organized before the exams. and be familiar with your notes.

Grading

The final course grade will be based on the total number of points scored during the term. The contributions are weighted as follows:

homework 35%
 mid-term exam 25%
 final exam 40%

Percentage of points P is then given by:

$$P = 0.35 \cdot \frac{\text{your homework points}}{\text{total homework points}} + 0.25 \cdot \frac{\text{your midterm exam points}}{\text{total midterm exam points}} + 0.40 \cdot \frac{\text{your final exam points}}{\text{total final exam points}}$$

I will round up every figure to one significant decimal place (e.g. 90.712 will become 90.8). In case your final grade is close to a respective boundary (see table below) I will

down-grade it, if the attendance has been low (more than one unexcused absence). The percentage of the scored points will define the final grades:

Percentage P [%]	Grade	Final grade
97.0 – 100	A+	
94.0 – 96.9	A	A
91.0 – 93.9	A-	
87.0 – 90.9	B+	
83.0 – 86.9	B	B
79.0 – 82.9	B-	
75.0 – 78.9	C+	
71.0 – 74.9	C	C
67.0 – 70.9	C --	
Percentage P [%]	Grade	Final grade
62.0 – 66.9	D+	
57.0 – 61.9	D	D
52.0 – 56.9	D --	
Below 51.9	F	F

Anything below 67% (C-) is a failing grade!

Academic integrity is fundamental to the process of learning and evaluating academic performance. Academic dishonesty will not be tolerated. Academic dishonesty includes, but is not limited to, the following: cheating, plagiarism, tampering with academic records and examinations, falsifying identity, and being an accessory to acts of academic dishonesty. Refer to the UNO Judicial Code for further information.

The new policy on Academic Dishonesty is available online at:
<http://www.studentaffairs.uno.edu/studentpolicies/policymanual/academicdishonesty.cfm>

Students with disabilities who qualify for services will receive the academic modifications for which they are legally entitled. It is the responsibility of the student to register with the Office of Disability Services (UC 260) each semester and follow their procedures for obtaining assistance.

Cell phones – as always – are switched off during class.

Human Factors Engineering

Provisional Fall Lecture Syllabus 2015

HFE 1

- L. 1: Introduction to Human Factors Engineering (HFE) and Human Systems Integration (HSI).
- L. 2: Person-Machine System.
- L. 3: Muscular Work, 1.
- L. 4: Muscular Work, II and Improving Work Efficiency.
- L. 5: Work Physiology I.
- L. 6: Work Physiology II.
- L. 7: Human Vibration.
- L. 8: Engineering Anthropometry and Workspace Design.
- L. 9: Biomechanics of Work 1.
- L. 10: Biomechanics of Work 11.
- L. 11: Design of the Central Nervous System.
- L. 12: Cognition – Memory.
- L. 13: Introduction to Perception
- L. 14: Perceptual Systems – Visual 1.
- L. 15: Perceptual Systems – Visual 11.
- L. 16: Perceptual Systems – Auditory 1.
- L. 17: Perceptual Systems – Auditory 11; Tactile and Vestibular.
- L. 18: Motion Sickness I.
- L. 19: Motion Sickness II.
- L. 20: Motion Sickness 111 Cognitive-Behavioral Desensitization Training
- L. 21: Motion Sickness 1V Demonstration of this CBBT training
- L. 22: Qualitative and Quantitative Methods in Operations Research.
- L. 23: Human Systems Design and Modeling.
- L.24: Control Systems.
- L. 25 Health and Safety Issues.
- L. 26: Stress and Workload.
- L. 27: Safety and Accident Prevention.
- L. 28: Human Error Data.