FACULTY OF ENGINEERING
MÜHENDİSLİK FAKÜLTESİ
Department of Industrial Engineering
Endüstri Mühendisliği Bölümü

COURSE SYLLABUS

Course Code: **IENG505** **Semestre**: Spring, 2017-2018
Course Title: **Ergonomics** **Students**: MS & PhD Students
Pre-requisite: **Consent of department.**

Instructor: Assoc. Prof. Dr. ADHAM MACKIEH
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Catalogue Data: The ergonomic issues of industrial society are introduced, in that respect the problems of working environmental conditions such as illumination, climate, noise, motion, work design, and shift-work will be discussed in this course. Moreover, the methodologies for assessment of physical and mental work load will be investigated. Research projects either in the human factors laboratory or in a real life field would be conducted.

Course Objectives:
The aim of this course is to introduce the students to the research methodologies used in human factors engineering, so they can use them in the design stage of more comfortable and safer products or workplaces.

Course Outline:

1. Concepts of Ergonomics, Nature of Ergonomics problem, and Importance of Human Integrated Design.
2. Noise.
3. Vibration.
4. Illumination.
5. Climate.
6. Human Factors in the design of machines, equipments, and the working environment.
7. Shift-work system.
8. Physical work load assessment.
9. Mental work load assessment.
10. Human error.
11. Safety management.

References:

1. Chandler Allen Phillips. Human Factors Engineering. John Wiley & Sons, Inc., ISBN: 0-471-24089-3.
2. R. DEREAMER, Modern Safety and Health Technology, JOHN WILEY & SONS. ISBN: 9780471057291.
3. K. KROEMER, H. KROEMER, K. KROEMER-ELBERT. Ergonomics; How to Design For Ease and Efficiency. 2'nd Edition, Prentice Hall. ISBN: 0-13-752478-1.
4. K. F. H. MURRELL, Ergonomics, Man in His Working Environment, CHAPMAN and HALL. ISBN: 978-94-009-5878-4.
5. G. SALVENDY, Handbook of Human Factors and Ergonomics, JOHN WILEY & SONS. ISBN: 978-0-470-52838-9.
6. M. S. SANDERS and E. J. McCormick, Human Factors in Engineering and Design. Seventh Edition, McGraw-HILL: International Editions. ISBN: 0-07-112826-3
7. C. D. Wickens, J. D. Lee, Yili Liu and S. E. G. Becker. An Introduction to Human Factors Engineering, 2'nd Edition, Pearson International Edition. ISBN: 0-13-122917-6.

Evaluation: The final grade is based on the general assessment of the instructor. The following percentages may give an idea about the relative importance of various assessment tools.

1. **In class Midterm Exam: 25%**
2. **Assignments: 20**
3. **Project: 25%**
4. **In class Final Exam: 30%**