



Safety in the Workplace (SFE 501)

A. Instructor

Tamer Khalaf, Ph.D., Assistant Professor

Office phone : 4676301
Website : Learning Management System (Blackboard)
Email : Contact me through course website
Office : Department of Industrial Engineering, Room # 2A 123/2.
Class Time : Tue (3:00 – 5:50 pm)
Office hours : will be posted at my office's door (window)

B. Reference Books

1. *Human Factors in Engineering and Design*; Mark S Sanders and Ernest J McCormick, 2nd Ed., McGraw-Hill, INC; 1992.
2. *Introduction to Ergonomics*, R. S. Bridger, 3rd Ed., CRC Press; 2009.
3. *Human Reliability and Safety Analysis Data Handbook*; David I. Gertman and Harold S. Blackman, John Wiley & Sons; 1994.
4. *Human Error*; James Reason, Cambridge University Press; 1990.
5. *Engineering Psychology and Human Performance*; Christopher D. Wickens, Justin G. Hollands, Raja Parasuraman and Simon Banbury; 3rd Ed., Prentice Hall; 2013.

C. Reference Journals

- ✓ Ergonomics
- ✓ Human Factors
- ✓ IEEE Transactions on Systems, Man and Cybernetics
- ✓ Behavior and Information Technology
- ✓ International Journal of Man-Machine Studies

D. Catalog Course Description

Introduction; Maslow's Hierarchy of Needs; Physical Workload; Cognitive Workload; Leadership Skills; Job Satisfaction; Team Work; Human Error; Fatigue; Stress and Boredom; Principles of Job Design; Working Hours and Shift Work; Safety Culture; Workplace Hazards; Hazard and Operability study (HAZOP); Failure Mode and Effects Analysis (FMEA);

E. Learning Objectives

This course introduces students to the field of workplace safety through the recognition of hazards associated with work performance in order to enhance workplace safety, job satisfaction, efficiency, and human workforce wellbeing. This course will guide students to:



1. Recognize Maslow's hierarchy of needs.
2. Understand how physical and mental workloads are manifested in the workplace.
3. Recognize the effect of leadership skills, team work and job satisfaction on enhancing workplace safety.
4. Define safety culture and learn how to promote it in an organization.
5. Define and classify human error and identify its sources.
6. Recognize the effect of fatigue, stress, work schedule and work shift on human error.
7. Apply safety assessment techniques (HAZOP, FMEA).
8. Gain knowledge about human reliability.

F. Course Project (Paper)

The area of interest for your individual project (paper) is not limited, as long as it reflects the main thrust of the course. You may examine the context of reference books to get an idea about the scope of this research area before you start thinking about your own project.

G. Grades

	Course Activity	Designated points	Due Dates	Week
1.	1 st Midterm Exam	10 points	Tuesday, March 18, 2014	8
2.	2 nd Midterm Exam	10 points	Tuesday, May 6, 2014	14
3.	Course Project Submission and Presentation	40 points	Tuesday, May 13, 2014	15
4.	Final	40 points	TBA	
	Total	100 points		

H. Course Policies

1. General

- Turn your Cell Phones off during class (**No Tolerance** for **ANY** type of cell phone use during class)
- Course project report (paper) must be computer typed, printed out and stapled with a **cover page** indicating project (paper) title, your name, and submission date.
- King Saud University Board of Regents expects two hours of study outside of class for every hour in the classroom. For this class, expect to spend about six hours of study outside of class each week.
- Read the assigned reading before coming to class. Learning is your responsibility

2. Exams

- Midterm exams are not comprehensive.
- Students are responsible for all course material covered regardless of an absence was or was not excused.
- There are no make-up exams. Any **missed midterm** will be made up for by 25% of the student's grade in the Final Exam, **Only In Case of Accepted Medical Emergency Excuse to the Student himself (not a Family Member)**. In such case, the student is required to submit a medical report indicating the medical emergency and the necessity for absence accredited form King Khaled or King Abdulaziz University Hospitals within 14 days of the missed exam.
- Students are expected to write their solutions in a logical order starting from top of their answer sheet; “jumbled” solutions reduce the probability of receiving full grade.
- **Multiple** solutions with different **outcomes** for the same question receive zero of the grade (they mean you don't know what you are doing).

3. Class Project

- Topics must be related to the course of study and approved by the instructor.
- Each student will present his class project to the whole class. Project presentation accounts for 20% of the project's grade.
- Each student is required to submit three progress reports during the semester time indicating his progress in his project (paper) before submitting the final project (paper) report. Progress reports account for 30% of the project's grade. The due dates and content for these progress reports and the final project (paper) report are listed in the table below:

	Content	Due date
1	Project (paper) topic selection, introduction, problem definition, motivation and brief background (at least 5 pages).	Tue, March 4, 2014 (week 6)
2	Full literature review of the problem indicating the alternative approaches for solving such problem (at least 15 pages).	Tue, April 8, 2014 (week 10)
3	Project (paper) objective and full methodology for solving the proposed problem (at least 5 pages).	Tue, May 6, 2014 (week 14)
4	Validation (results), discussion and conclusion of your project (paper) in addition to the contents of the three progress reports	Tue, May 13, 2014 (week 15)



4. Attendance

- You must attend at least 75% of all course activities in order to be able to complete this course.
- Total course activities are 15 lectures (one three-hour lecture a week).
- If you fail to attend a total of 11 activities (make 4 absences) you will be banned from attending the final exam.
- A list of students who are approaching critical level of absenteeism will be posted at my office and will be updated weekly (it is the student's responsibility to review this list on a weekly bases).

I. **Statement on Cheating**

King Saud University has no tolerance for acts of academic dishonesty. The responsibilities of both students and faculty with regard to academic dishonesty are described in detail in the Department's Policy Statement on Academic Dishonesty. By teaching this course, I have agreed to observe all of the faculty's responsibilities described in that document. By enrolling in this class, you have agreed to observe all of the student's responsibilities described in that document. **If the application of that Policy Statement to this class and its assignments is unclear in any way, it is your responsibility to ask me for clarification.**