Syllabus

Course Title: Environmental studies

Course Code:

Course Followers:

Students of Mechatronics Department in 2nd semester of 1st year

Course Meeting Times

Lectures: 1 session / week.

Course Introduction

Everyone who works in an engineering organization has a responsibility to contribute to improving the business, so if you plan to work in engineering you need to understand how business improvement techniques are identified and applied. Many organizations have a strong culture of continuous improvement and will encourage you to take ownership of improvement activities and develop working practices to increase efficiency, safety and quality, while at the same time reducing cost. In this unit, you will investigate and carry out a range of business improvement techniques that are common in the workplace. This will include changing business processes in order to reduce waste and reorganizing a work area to make it safer and more efficient. You will learn how visual management techniques help communication on the shop floor and how these can be applied in a range of circumstances.
This unit will prepare you for work in the technology/industrial sector by giving you the skills to assess and improve your own work environment to make it more efficient and cost-effective.

Course Objectives

After successfully studying this course, students will learn:

1- The basic knowledge of Environmental studies and Learners apply business improvement techniques to eliminate waste.
2- The basic knowledge of reorganize a work area and learn about visual management techniques.
3- The basic knowledge of Industrial environment components.
4- The basic knowledge of Productivity and its relationship to the environment.
5- The basic knowledge of Modern production methods and its relationship to the environment.
6- The basic knowledge of System SCADA And the most important applications In environmental management.
7- The basic knowledge of Ergonomics And the most important applications In environmental management

Learning Outcomes

By the end of this unit students will be able to:

- Implement waste minimization techniques in the engineering workplace.
- Make improvements to workplace organization using a workplace scan.
- Employ methods of visual management in the engineering workplace.

Prerequisites / Reference Courses

- Health, Safety and Risk Assessment in Workplaces
- But if those courses are not available it is also O.K. to start this course without any prerequisite course.

Textbooks

The course textbooks are:

1.

2.

Homework

- Homework will be issued in lectures and collected one week later at the starting of the class hour.
- Corrected homework with solutions will be returned during the class hour one week later since it is collected.
- You are welcome and encouraged to discuss the homework with your colleagues. However, the final documentations for your homework answers must be your own.
- Submitting homework copied from someone else is a breach of ethics, and will be handled by the Committee on Discipline.
- More importantly, although homework counts for only 5 percent of the grade, don't forget that they are critical to learning the subject and doing well on the quizzes and final examination.
- **One homework problem will appear in each test**, and homework performance will be taken into account during grade assignment for cases when student's grade is on the boundary between two mark levels.
- **Late homework will not be accepted for grading**. However, total homework grades will be based on the best eleven out of thirteen individual homework grades. Thus, two homework assignments may be missed without a grading penalty.
- All homework will be graded on a coarse scale of 0 points to 3 points. Student will get 3 points if all or nearly all problems are correct, 2 points if approximately half of the problems are correct, 1 point if most of the problems are incorrect, and 0 points if homework was submitted late or not submitted.

Midterm Examination

- One closed-book midterm exam will be conducted during the semester.
- There will be no lecture on examination day. **You may bring one two-sided sheet of notes written by your own hands to the exam**.

Final Exam

- One -hours final exam will be conducted during the last week of the semester. Timing and room assignments will be announced later.

Calendar

The calendar provides information on the course's lecture class (L), and exam (E) sessions.

SES #	TOPICS	KEY DATES
L1	Introduction to Environmental studies	Homework #1
L2	Industrial environment components	Homework #2
L3	Productivity and its relationship to the environment	Homework #3
L4	Modern production methods	Homework #4
L5	Environmental management	Homework #5
L6	Waste management	Homework #6
L7	Applications Waste management	Homework #7
E1	Midterm Exam	
L8	Waste treatment methods	Homework #8
L9	visual management techniques	Homework #9
L10	System SCADA	Homework #10
L11	Applications SCADA	Homework #11

SES #	TOPICS	KEY DATES
L12	Ergonomics	Homework #12
L13	Applications Ergonomics	Homework #13
E2	Final Exam	

Grading (or Assessment) Policy

Initial grading will be based on the following weighting:

ACTIVITIES	PERCENTAGES
Homework and performance & reports.	20%
Midterm	20%
Final exam	60%

- All homework will be graded on a coarse scale of 0 to 3 points,
  - i) 3 points if all or nearly all problems are correct,
  - ii) 2 points if homework is approximately half correct,
  - iii) 1 point if mostly incorrect, and
  - iv) 0 points if late or not submitted.

· This will be followed by considerable discussion among the entire teaching staff to factor in your diligence on the homework and labs, and your participation in class and labs. This discussion can affect your letter grade for the course, particularly if your initial grade is on a letter-grade boundary.

· Furthermore, failure to complete the labs in this subject will result in an overall grade that is one letter grade lower (not an Incomplete).

· This subject has been designed so that lectures, homework and labs are integral and essential parts of the learning process. Although there is no specific reward for participation, there is a clearly defined penalty for not participating. Students who consistently miss lectures, homework and labs will not be included in the grading discussions.