

TERM 072
SYSTEMS ENGINEERING DEPARTMENT
SE-100 INTRODUCTION TO TECHNOLOGY

Instructor: Atiq Waliullah Siddiqui
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Office Hours: Sat - Tues: 09:00 AM – 10:00 AM (Or By Appointment)

Objective: The objective of this course is to present the role of technology in various industries such as manufacturing, construction, communication etc. Emphasis will be on terminologies, uses and systematic representation on the role of different resources in the organization.

Course Outcomes: At the end of the course the students will be able to perform the following:

1. Define technology.
2. Present examples of the use of technology in different industries.
3. Describe the seven resources essential for any technological task.
4. Draw system diagrams (open loop and closed looped) of a technological system.
5. State the seven-step method of problem solving.
6. Define the basic terminologies in electronics, construction, manufacturing, communication, Internet & e-commerce, energy & power.
7. Describe people involved and their hierarchy in management of construction and manufacturing.
8. State the importance and role of e-commerce.
9. Describe the sources of energy and to classify these according to their availability.

Text Book: Living with Technology (2nd Edition)
 By M. Hacker and R. Barden

Grading:

Attendance	5%
Lab Games/home works	3%
Quizzes (3-4)	15%
Team Project (group of 3)	12% (2+5+5: WebCT Disc+ Report+ Presentation)
Major I	20%
Major II	20%
Final	25%

Course Outline:

Week	Topic	Chapter
1	Introduction to Technology	1
2	Resources for Technology	2
	Quiz I	
3/4	Technological Systems (HANDOUT)	**
4	The Electronic Computer Age	4
	Major I: March 18, 2008, 06:30 PM – 08:30PM – Building 10	
5	Computer Networks (HANDOUT)	**
6	The Internet in Business (HANDOUT)	**
	Quiz II	
7	Communication Systems (1/2 chapter: up to data comm.)	7
8	Manufacturing (HANDOUT part 1-2)	**
	Major II: April 22, 2008, 06:30 PM – 08:30PM - OAB	
9	Manufacturing (HANDOUT part 3-4) cont...	**
10	Construction	10
	Quiz III	
11	Production systems (1/2 chapter: Managing construction only)	12
12	Energy	13
13	Power	14
	Quiz IV	
14	Transportation	15
16	Final Exam: June 15, 2008, 7:30 AM -9:30 AM	

**** From hand out**

Laboratory Activities/Projects: The lab includes many multimedia and videos related to the topics of the course. Some labs also include simulation games, university laboratories, and centers in accordance with the topics covered.

In the project, students are asked to work in groups to make reports & presentations in different fields of technologies. Some projects involve the implementation of problem solving procedures on different technology problems.

Caveat: the above information is subjected to changes during the course of the semester e.g. number of quizzes, course content etc.