



BENHA UNIVERSITY



FACULTY OF ENGINEERING AT SHOUBRA

COURSE SPECIFICATIONS (2014-2015)

Model No.12

Course Specifications: Work design & Ergonomic

University: Benha University

Faculty: Faculty of Engineering at Shoubra

Department offering the program: Mechanical Engineering Department

Department offering the course: Mechanical Engineering Department

1- Course Data

Course Code: MDP364

Course Title: Work design & Ergonomic

Specialization: Mechanical Production Engineering

Course Type: Elective

Study Year: Third Year

Teaching Hours: Lecture: 4 Tutorial:2

Practical: 0

Total: 6

2- Course Aim

For students undertaking this course, the aims are to:

1. Provide the students with work design concepts and work system and its measurements, facilities design and layout and method study and ergonomic and job evaluation.

3- Intended Learning Outcomes of Course (ILO'S)

a- Knowledge and Understanding

On completing this course, students will be able to demonstrate the knowledge and understanding of:

- a.1) Different methodologies of work design (A5)
- a.2) Learn work systems, standards, health, safety, and environment. (A6)
- a.3) Business and management principles related to work system. (A7)
- a.4) Management and business techniques. (A20)

b- Intellectual Skills

At the end of this course, the students will be able to:

- b.1) Select appropriate mathematical and computer-based methods for modeling and analyzing work design problems. (B1)
- b.2) Assess and evaluate the characteristics and performance of components, systems and processes. (B5)
- b.3) Solve industrial engineering problems, often on the basis of limited and possibly contradicting information. (B7)
- b.4) Apply the principles of mathematics, science and technology in solving work system problems. (B13)

c- Professional Skills

On completing this course, the students are expected to be able to:



COURSE SPECIFICATIONS (2014-2015)

- c.1) Apply knowledge of mathematics, science, information technology, design, business context and engineering practice to solve work design problems. (C1)
- c.2) Use techniques, measuring instruments, workshops and laboratories equipment to collect, analyze, and interpret results. (C5)
- c.3) Demonstrate basic organizational and project management skills. (C9)

d- General Skills

At the end of this course, the students will be able to:

- d.1) Collaborate effectively within multidisciplinary team. (D1)
- d.2) Work in stressful environment and within constraints. (D2)
- d.3) Communicate effectively. (D3)

4- Course Contents

No.	Topics
1	Introduction to Work design & Ergonomic
2	Productivity
3	Management basic concepts.
4	Facilities design and layout.
5	Method study
6	work measurement
7	Ergonomics.
8	Job evaluation

5- Teaching and Learning Methods

- 5.1 Lectures
- 5.2 Tutorial
- 5.3 Class activity
- 5.4 Case study
- 5.5 Seminar / workshop

6- Teaching and Learning Methods of Disables

- Nothing.

7- Student Assessment

a- Student Assessment Methods

1. Five Assignments to assess knowledge and intellectual skills.
2. Two Quizzes to assess knowledge, intellectual and professional skills.
3. Midterm exam to assess knowledge, intellectual, professional and general skills.
4. Final exam to assess knowledge, intellectual, professional and general skills.

b- Assessment Schedule

NO.	Assessment	Week
1	Assignments	3, 5, 7, 10, 11
2	Quizzes	4, 9
3	Midterm exam	8
4	Oral exam	-
5	Final exam	15



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FACULTY OF ENGINEERING AT SHOUBRA

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c- Weighting of Assessments

Assessment	Weight (%)
Midterm Examination	20
Final Term Examination	67
Oral Examination	-
Semester Work	8
Assessments and Quizzes	5
Total	100

8- List of References

a- Course Notes: Course notes prepared by instructor.

b- Recommended Books

1. Dr. B. Kumar, " Industrial engineering and management ", Khanna publishers, Delhi, India, 2004

Course Coordinator: Dr. Mamdouh Mohamed Elsayed Soliman

Head of Department: Prof. Dr. Osama Ezzat Abdelatif



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FACULTY OF ENGINEERING AT SHOUBRA

COURSE SPECIFICATIONS (2014-2015)

Model No.11A

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Faculty: Faculty of Engineering at Shoubra

Department offering the program: Mechanical Engineering Department

Department offering the course: Mechanical Engineering Department

Matrix of Knowledge and Skills of the course

No.	Topics	week	Basic Knowledge	Intellectual Skills	Professional Skills	General Skills
1	Introduction to Work design & Ergonomic	1	a1			
2	Productivity	2	a2	b1		
3	Management basic concepts	3	a3,a4			
4	Facilities design and layout	4,5		b4	c1	d2
5	Method study	6,7,9		b2	c1	d1
6	work measurement	10,11		b3	c2	d3
7	Ergonomics	12,13		b1	c3	d2

Course Coordinator: Dr. Mamdouh Mohamed Elsayed Soliman

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Matrix of Course Aims and ILO's

Course Title: Work design & Ergonomic

Course Code: MDP364

Teaching Hours: Lecture: 4 Tutorial: 2 Total: 6

Major or minor element of program: Major

Program on which the course is given: B.Sc. Mechanical Production Engineering

Department offering the program: Mechanical Engineering Department

Department offering the course: Mechanical Engineering Department

Academic year / level: 2014-2015 Third Year / Second semester

Date of specifications approval: 2014

Course aims	Basic Knowledge	Intellectual Skills	Professional Skills	General Skills
Provide the students with work design concepts and Work system and its measurements , Facilities design and layout and method study and ergonomic and job evaluation.	a1,a2 a3,a4	b1,b2,b3,b4	c1,c2,c3	d1,d2,d3

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