

Academic Course Description

BHARATH UNIVERSITY
 Faculty of Engineering and Technology
 Department of Electrical and Electronics Engineering
 BBA 008 Total Quality Management
 Seventh Semester (Odd Semester)

Course (catalog) description: To understand the working of management with quality performance and satisfaction of customers.

Compulsory/Elective course: Elective for EEE students

Credit & Contact hours : 3 and 45 hours

Course Coordinator : Dr.FabiyolaKavitha

Instructors : Ms.Dhivya

Name of the instructor	Class handling	Office location	Office phone	Email (domain:@ bharathuniv.ac.in)	Consultation
Ms.Dhivya	Second year EEE	KS 101	04422290125	Praveenkumar.mba@bharathuniv.ac.in	12.30 PM-1.30 PM

Relationship to other courses:

Pre –requisites : Professional Course

Syllabus Contents

UNIT- I INTRODUCTION 9

Definition of Quality, Dimensions of Quality, Quality costs, Top Management Commitment, Quality Council, Quality Statements, Barriers to TQM Implementation, Contributions of Deming, Juran and Crosby, Team Balancing

UNIT- II TQM PRINCIPLES 9

Customer satisfaction – Customer Perception of Quality, Customer Complaints, Service Quality, Customer Retention, Continuous Process Improvement, 5S, Kaizen, Just-In-Time and TPS

UNIT –III STATISTICAL PROCESS CONTROL 9

The seven tools of quality, New seven Management tools, Statistical Fundamentals – Measures of central Tendency and Dispersion, Population and Sample, Normal Curve, Control Charts for variables and attributes, Concept of six sigma.

UNIT- IV TQM TOOLS 9

Quality Policy Deployment (QPD), Quality Function Deployment (QFD), Benchmarking, Taguchi Quality Loss Function, Total Productive Maintenance (TPM), FMEA

UNIT- V QUALITY SYSTEMS**9**

Need for ISO 9000 and Other Quality Systems, ISO 9001:2008 Quality System – Elements, Implementation of Quality System, Documentation, Quality Auditing, ISO 14001:2004

Text book(s) and/or required materials

- T1. Dale H.Besterfiled, “Total Quality Management”, 3rd edition 2011 Pearson Education
 T2. James R.Evans & William M.Lindsay, —”The Management and Control of Quality”, 9th Edition South-Western (Thomson Learning)

Reference Books:

1. Feigenbaum.A.V. —Total Quality Management; 4 edition (August 1, 1991), McGraw-Hill Professional
2. Oakland.J.S. —Total Quality Management, 3rd Edition, 2003. Butterworth – Heinemann Ltd Oxford
3. <https://open.library.ubc.ca/cIRcle/collections>

Computer usage:**Professional component**

General	-	0%
Basic Sciences	-	0%
Engineering sciences & Technical arts	-	0%
Professional subject	-	0%
Open Elective	-	100%

Test Schedule

S. No.	Test	Tentative Date	Portions	Duration
1	Cycle Test-1	August 1 st week	Session 1 to 14	2 Periods
2	Cycle Test-2	September 2 nd week	Session 15 to 28	2 Periods
3	Model Test	October 2 nd week	Session 1 to 45	3 Hrs
4	University Examination	TBA	All sessions / Units	3 Hrs.

Mapping of Instructional Objectives with Program Outcome

This course is to develop a strong foundation in analysis and design of digital electronics. This course introduces combinational and sequential circuit design. It also discussed concepts of memory, programmable logic and digital integrated circuits.	Correlates to program outcome		
	H	M	L
1.Understand quality concepts and philosophies of TQM	a	f,j	
2.Apply TQM principles and concepts of continuous improvement	c	a	b
3.Apply and analyze the quality tools, management tools and statistical fundamentals to improve quality	d,i,l	a	
4.Understand the TQM tools as a means to improve quality		a,g	e,k
5.Remember and understand the quality systems and procedures adopted			b
6.know prerequisites of evolution of total quality management and significance of quality gurus' works to the management of modern organizations.	f		

H: high correlation, M: medium correlation, L: low correlation

Draft Lecture Schedule

S.NO	Topics	Problem solving (Yes/No)	Text / Chapter
UNIT I INTRODUCTION			
1.	Definition of Quality		T1,T2
2.	Dimensions of Quality		
3.	Quality costs		
4.	Top Management Commitment		
5.	Quality Council		
6.	Quality Statements		
7.	Barriers to TQM Implementation		
8.	Contributions of Deming		
9.	Juran and Crosby, Team Balancing		
UNIT II TQM PRINCIPLES			
10.	Customer satisfaction		T1,R1
11.	Customer Perception of Quality		
12.	Customer Complaints		
13.	Service Quality		
14.	Customer Retention		
15.	Continuous Process Improvement		
16.	5S		
17.	Kaizen		
18.	Just-In-Time and TPS		
UNIT III STATISTICAL PROCESS CONTROL			
19.	The seven tools of quality		T1,T2
20.	New seven Management tools		
21.	Statistical Fundamentals		
22.	Measures of central Tendency		
23.	Dispersion		
24.	Population and Sample		
25.	Normal Curve		
26.	Control Charts for variables and attributes		
27.	Concept of six sigma.		
UNIT IV TQM TOOLS			
28.	Quality Policy Deployment (QPD)		T1,R2
29.	Quality Function Deployment (QFD)		
30.	Benchmarking,		

31.	Benchmarking,		
32.	Taguchi Quality Loss Function		
33.	Taguchi Quality Loss Function		
34.	Total Productive Maintenance (TPM),		
35.	Total Productive Maintenance (TPM),		
36.	FMEA		
UNIT V QUALITY SYSTEMS			
37.	Need for ISO 9000 and Other Quality Systems		T1,R1
38.	ISO 9001:2008 Quality System		
39.	Elements		
40.	Implementation of Quality System		
41.	Documentation		
42.	Documentation		
43.	Quality Auditing		
44.	Quality Auditing		
45.	ISO 14001:2004		

Teaching Strategies

The teaching in this course aims at establishing a good fundamental understanding of the areas covered using:

- Formal face-to-face lectures
- Tutorials, which allow for exercises in problem solving and allow time for students to resolve problems in understanding of lecture material.
- Laboratory sessions, which support the formal lecture material and also provide the student with practical construction, measurement and debugging skills.
- Small periodic quizzes, to enable you to assess your understanding of the concepts.

Evaluation Strategies

Cycle Test – I	-	5%
Cycle Test – II	-	5%
Model Test	-	10%
Assignment	-	5%
Attendance	-	5%
Final exam	-	70%

Prepared by:
Dr.FabiyolaKavitha

Dated :

Addendum

ABET Outcomes expected of graduates of B.Tech / EEE / program by the time that they graduate:

- a) An ability to apply knowledge of mathematics, science, and engineering fundamentals.
- b) An ability to identify, formulate, and solve engineering problems.
- c) An ability to design a system, component, or process to meet the desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
- d) An ability to design and conduct experiments, as well as to analyze and interpret data.
- e) An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.
- f) An ability to apply reasoning informed by the knowledge of contemporary issues.
- g) An ability to broaden the education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
- h) An ability to understand professional and ethical responsibility and apply them in engineering practices.
- i) An ability to function on multidisciplinary teams.
- j) An ability to communicate effectively with the engineering community and with society at large.
- k) An ability in understanding of the engineering and management principles and apply them in project and finance management as a leader and a member in a team.
- l) An ability to recognize the need for, and an ability to engage in life-long learning..

Program Educational Objectives

PEO1: PREPARATION

Electrical Engineering Graduates are in position with the knowledge of Basic Sciences in general and Electrical Engineering in particular so as to impart the necessary skill to analyze and synthesize electrical circuits, algorithms and complex apparatus.

PEO2: CORE COMPETENCE

Electrical Engineering Graduates have competence to provide technical knowledge, skill and also to identify, comprehend and solve problems in industry, research and academics related to power, information and electronics hardware.

PEO3: PROFESSIONALISM

Electrical Engineering Graduates are successfully work in various Industrial and Government organizations, both at the National and International level, with professional competence and ethical administrative acumen so as to be able to handle critical situations and meet deadlines.

PEO4: SKILL

Electrical Engineering Graduates have better opportunity to become a future researchers/ scientists with good communication skills so that they may be both good team-members and leaders with innovative ideas for a sustainable development.

PEO5: ETHICS

Electrical Engineering Graduates are framed to improve their technical and intellectual capabilities through life-long learning process with ethical feeling so as to become good teachers, either in a class or to juniors in industry.

Course Teacher	Signature
Ms.Dhivya	

Course Coordinator
(Dr.FabiyolaKavitha)

HOD/EEE
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