

GUJARAT TECHNOLOGICAL UNIVERSITY, AHMEDABAD, GUJARAT

**COURSE CURRICULUM
COURSE TITLE: COSTING AND ESTIMATING FOR PRINTING
(COURSE CODE: 3355804)**

Diploma Programs in which this course is offered	Semester in which offered
Printing Technology	5 th Semester

1. RATIONALE

Costing and Estimating is most important part of any business. This course teaches a scientific approach towards costing of different printing elements. The student will understand how a precise value of a job can be determined. Which are the factors to be considered while estimation, what are the upper limit for the wastage, how indirect costs are to be allotted to different productive departments, etc.

2. LIST OF COMPETENCY

The course content should be taught and implemented with the aim to develop required skills in the students so that they are able to achievement the following competency.

- Prepare cost estimates of print jobs.

3. COURSE OUTCOMES (COs)

The theory should be taught and practical should be carried out in such a manner that students are able to acquire different learning out comes in cognitive, psychomotor and affective domain to demonstrate following course outcomes.

- Differentiate between different types of costs.
- Explain various forms required in printing industry.
- Discuss different modern advancements and new techniques for Gravure printing industry.
- Estimate the cost of a print job.
- Explain legal aspects involved in printing industry.
- Prepare costing and estimation of print jobs using software.

4. TEACHING AND EXAMINATION SCHEME

Teaching Scheme (In Hours)			Total Credits (L+T+P) C	Examination Scheme				Total Marks
L	T	P		Theory Marks		Practical Marks		
				ESE	PA	ESE	PA	
4	0	0	4	70	30	00	00	100

Legends: L-Lecture; T – Tutorial/Teacher Guided Student Activity; P –Practical; C – Credit;; ESE –End Semester Examination; PA – Progressive Assessment.

5. DETAILED COURSE CONTENTS

Unit	Major Learning Outcomes (in cognitive domain)	Topics and Sub-topics
Unit –I Introduction to Costing	1a. Differentiate between various costing techniques. 1b. State factors affecting profitability. 1c. Describe depreciation and its methods. 1d. Explain hourly cost rate, machine cost rate, variable cost etc.	1.1 Outline of costing in Printing Industries. 1.2 Factors affecting profitability. 1.3 Budget centers – Cost recovery and Service. 1.4 Comparison of Actual and Budget Expenses. 1.5 Forecast life of assets. 1.6 Depreciation and its methods. 1.7 Cost control system and cost reduction. 1.8 Hourly cost rate and machine cost rate, allocation of expenses. 1.9 Types of cost : Variable cost, Fixed Cost, Unit Cost 1.10 Comparison between time rate and work rate system.
Unit– II Forms	2a. Prepare Statement of Summary. 2b. Prepare work instruction ticket, cost sheet, requisition form etc.	2.1 Statement Summary of Expenses. 2.2 Work instruction ticket. 2.3 Invoice, challan 2.4 Cost sheet 2.5 Requisition of paper, ink, binding materials etc. 2.6 Shift Production Report 2.7 Estimate form, Delivery and Sales Report 2.8 Quality control Report
Unit– III Estimating	3a. Prepare estimates for print jobs. 3b. Explain estimation process of paper, ink, binding material, DTP cost, Printing rate, Finishing rate etc.	3.1 Qualities and tools of estimator. 3.2 Standard press routine and its advantage. 3.3 Estimation of paper, Paper size: British and ISO, GSM, Wastage allowance, Weight of Web and sheets, calculation of no of pages. 3.4 Estimation of Ink Consumption – SPANKS formula 3.5 Estimation of Binding Material. 3.6 Determination of rate for design, DTP, Processing Binding and Finishing and Printing.
Unit– IV Legal Aspects	4a. Describe legal aspects like liability, customer's property, disputes, taxes, and local organization rules.	4.1 Liability 4.2 Customer's Property 4.3 Terms and condition 4.4 Disputes about cost variation and delayed payments 4.5 Taxes and handling or delivery charges. 4.6 Variation in quality. 4.7 Local organization and rules

Unit	Major Learning Outcomes (in cognitive domain)	Topics and Sub-topics
Unit– V Costing and Estimation Software	5a. Use different costing and estimating software.	5.1 Introduction of different costing and estimating software. 5.2 Software handling procedure or working. 5.3 Needed parameter. 5.4 Advantages of Software 5.5 Problems

5. SUGGESTED SPECIFICATION TABLE WITH HOURS & MARKS (THEORY)

Unit No.	Unit Title	Teaching Hours	Distribution of Theory Marks (Duration – 2.5 Hours)			
			R Level	U Level	A Level	Total
I	Introduction to Costing.	10	2	6	6	14
II	Forms	12	2	4	8	14
III	Estimating	12	2	6	6	14
IV	Legal Aspects	12	2	6	6	14
V	Costing and Estimation Software	10	2	6	6	14
Total		56	10	28	32	70

Legends: R = Remember; U= Understand; A= Apply and above levels (Bloom's Revised taxonomy)

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

7. SUGGESTED LIST OF PRACTICALS:

The practical/exercises should be properly designed and implemented with an attempt to develop different types of cognitive and practical skills (**Outcomes in cognitive, psychomotor and affective domain**) so that students are able to acquire the competencies.

Following is the list of practical exercises for guidance.

Note: Here only outcomes in psychomotor domain are listed as practical/exercises. However, if these practical/exercises are completed appropriately, they would also lead to development of Programme Outcomes/Course Outcomes in affective domain as given in a common list at the beginning of curriculum document for this programme. Faculty should refer to that common list and should ensure that students also acquire those Programme Outcomes/Course Outcomes related to affective domain

8. SUGGESTED LIST OF STUDENT ACTIVITIES

Following is the list of proposed student activities such as:

- i. Collect 10 different print jobs and prepare cost estimate sheet for each.
- ii. Surf web and collect information on costing and estimating software.

9. SPECIAL INSTRUCTIONAL STRATEGIES (if any)

- i. Industrial Demonstration of Management system during industrial visit.
- ii. Understand different managerial functions & tasks during Industrial visit.
- iii. Video clips of management system for easy learning.
- iv. Guest lecturers from industry experts for contemporary practices of industries.

10. SUGGESTED LEARNING RESOURCES**A. List of Books:**

S. No.	Title of Books	Author	Publication
1	Hand book of Printmedia	Helmut Kipphan	Springler (ISBN 3-540-67326-1)
2	Costing and Estimating	B.D. Mendiratta	
3	Printer's Costing	Ruggles	GATF

B. List of Software/Learning Websites.

- i. en.softonic.com/s/estimating-and-costing-software
- ii. www.librisdesign.org/docs/CostEstimatSimp.pdf

11. COURSE CURRICULUM DEVELOPMENT COMMITTEE.**Faculty Members from Polytechnics**

- **Prof. B. I. Patel**, I/C Head of Department of Printing Technology, RCTI, Ahmedabad.
- **Prof. S. D. Gohel**, Lecturer in Printing Technology, RCTI, Ahmedabad.

Coordinator and Faculty Members from NITTTR Bhopal

- **Dr. Nishith Dubey**, Professor, Department of Vocational Education and Entrepreneurship Development.
- **Prof. Joshua Earnest**, Professor, Department of Electrical and Electronics Engineering