

**2.6.2. Attainment of Programme outcomes and course outcomes are evaluated by the institution.**

**Course Attainment:**

Attainment of the course outcomes is measured through direct attainment and indirect attainment.

**Overall attainment of CO** = 70% CO attainment from Direct method + 30 % of CO attainment through Indirect method

**Direct attainment:** 30% of CO attainment through formative assessment tools + 70 % of CO attainment through summative assessment tools.

**1.1 Formative assessment:**

- Unit test/Practice test
- Assignments/Tutorials
- Seminars/Presentation
- Group discussion
- Case study
- Mock interviews
- Open book test
- Online test
- Industrial Visits
- Quiz
- Mini Project

**1.2 Summative Assessment:**

The result of University theory and Practical examinations

**2. Indirect Attainment:**

The course exit survey for each course at the end of semester.

**Programme Outcome Attainment:**

**Overall attainment of PO** = 80 % PO attainment from direct method + 20 % PO attainment from indirect method

**Direct Attainment:**

Sum (Overall CO attainment X PO mapping factor) / Sum ( PO mapping factor)

**Indirect Attainment:**

Following methods are used:


- Program exit survey
- Guest lecture

- Industry visits
- Workshops
- The feedback obtained from alumni and recruiters

Rubrics are the indirect assessment tool used to measure the attainment of PO.

The POs/PSOs attainments will be mapped to the PEOs.



  
Principal  
Shree Chanakya Education Society's  
Institute of Engineering & Management  
Parandwadi, Pune.

# INDIRA COLLEGE OF ENGINEERING AND MANAGEMENT

Approved By AICTE New Delhi, DTE (MS) and Affiliated to Pune University ( Id-No. PU/PN/Engg/282/2007)



DEPARTMENT: Computer  
COURSE: Computer Graphics

SEMESTER: I - 2021-22  
COURSE CODE: 210244

## COURSE FILE: CONTENTS

No.	CONTENTS
1.	SYLLABUS
2.	INDIVIDUAL TIMETABLE
3.	TEACHING PLAN
4.	PRACTICAL PLAN/TUTORIAL PLAN
5.	ATTENDENCE RECORD
6.	LIST OF ASSIGNMENTS (Theory Home Assignments)
7.	LIST OF PRACTICAL ASSIGNMENT
8.	STUDENT NOTICES
9.	QUESTION BANK
10.	QUESTION PAPERS (SPPU/UNIT TEST/MID-TERM/PRELIM/MCQ'S/OPEN BOOK TEST/PRACTICE TEST)
11.	MARKSHEETS OF ALL EXAMS (PHASE/INSEM/ UNIT TEST/MID-TERM/PRELIM/MCQ'S/OPEN BOOK TEST/PRACTICE TEST)
12.	CONTINUOUS ACCESSMENT SHEET WITH SIGN OF STUDENT FOR THEORY
13.	CONTINUOUS ACCESSMENT SHEET WITH SIGN OF STUDENT FOR PRACTICAL
14.	COURSE EXIT SURVEY AND ITS EVALUATION
15.	CO-PO MAPPING, CO ATTAINMENT, PO ATTAINMENT
16.	FEEDBACK
17.	SAMPLE ASSIGNMENT /SAMPLE ANSWER SHEETS OF STUDENTS : 2 EACH
18.	SAMPLE NOTES/ PPT's
19.	SAMPLE JOURNAL IN SOFT COPY (ONE HARDCOPY AT DEPT LEVEL)
20.	ACTIVITY FOR SLOW/ADVANCED LEARNER
21.	ADDITIONAL ACTIVITY IF YOU HAVE CONDUCTED (OPTIONAL)


## Computer Graphics

CO→	210244.1	210244.2	210244	210244.4	210245	210244.6
Assessment tools↓						
<b>Direct Assessment</b>						
<b>Internal Assessment</b>						
Assignment 1	3.00	3.00				
Assignment 2			3.00	3.00	3.00	
Assignment 3			3.00	3.00	3.00	3.00
Unit Test 1	3.00	3.00	3.00	3.00		
Unit Test 2			3.00	3.00	3.00	3.00
Average direct Assessment=	3.00	3.00	3.00	3.00	3.00	3.00
A = Internal attainment X 0.3=	0.9	0.9	0.9	0.9	0.9	0.9
<b>University exams</b>						
In Sem Result	3	3	3	3		
End Sem Result	2	2	2	2	2	2
Average direct Assessment=	2.50	2.50	2.50	2.50	2.00	2.00
B = University Result X 0.7=	1.75	1.75	1.75	1.75	1.40	1.40
Total Attainment -Direct Assessment D= (A+B)*.7	1.855	1.855	1.855	1.855	1.61	1.61
<b>Indirect Assessment</b>						
C = Course Exit Survey Attainment	3	3	3	3	3	3
Total Attainment -Indirect Assessment I= (C)*.3	0.9	0.9	0.9	0.9	0.9	0.9
CO Attainment = D+I	2.755	2.755	2.755	2.755	2.51	2.51

### Rules for calculating Attainment level through SPPU Exam (University Exam- UE)

Level of Attainment	Rule for Attainment
3	60% or more students having more than average marks
2	50% or more students having more than average marks
1	40% or more students having more than average marks

Method	Tools for Asses	% Contribution	
Direct(Int)	Assignments	0.3	0.7
	Test-1		
	Test-2		
Direct(Ext)	University Exams(Phase/ Insem &	0.7	
Indirect	Course Exit Sur	0.3	

Name of the Faculty: Manjusha Tatiya  
Signature: 



  
Dr. Soumitra Das  
Head of Department

Computer Graphics

Direct PO Attainment

CO\PO	CO Attainment	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO 2	PSO 3
CO1	2.755	2	1	1												
CO2	2.755	3		1	1											
CO3	2.755	1	2		1											
CO4	2.755	2	1	1	1											
CO5	2.51	1		1												
CO6	2.51		2	2	1											
CO Sum		9	6	6	4	0	0	0	0	0	0	0	0			

CO\PO		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO1 1	PO1 2	PSO 1	PSO 2	PSO 3
CO1	2.755	5.51	2.755	2.755												
CO2	2.755	8.265		2.755	2.755											
CO3	2.755	2.755	5.51		2.755											
CO4	2.755	5.51	2.755	2.755	2.755											
CO5	2.51	2.755		2.755												
CO6	2.51		5.51	5.51	2.755											
PO Sum		24.8	16.53	16.53	11.02	0	0	0	0	0	0	0	0			
Overall Direct PO Attainment		2.76	2.76	2.76	2.76											
A = Overall Direct PO		2.20	2.20	2.20	2.20											

Indirect PO Attainment

20%	Program Exit Survey															
	Industrial Training															
	Workshop															
	Guest Lecture/Seminar															
	Total															
B = Overall Indirect PO																
Overall PO attainment (A+B)		2.20	2.20	2.20	2.20											

$$PO_i = \frac{\sum_{j=1}^n CO_j W_j}{\sum_{j=1}^n W_j}$$

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Registrar

Indira College of Engineering & Management  
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