

OUTCOME BASED EDUCATION

LEARNING OUTCOMES-ESTABLISHMENT, ASSESSMENT AND ATTAINMENT PROCESS MANUAL



CHRIST COLLEGE (AUTONOMOUS) IRINJALAKUDA

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DEFINING PEO, PO, PSO, CO AND PREPARING MATRICES

WORK FLOW

Following steps are adopted to Define and Establish PEO, PO, PSO and CO and their interrelationships.

Step 1: - The Governing Body of the College in consultation with stakeholders (Employers, Educationists & Parents) decides the Programme Learning Objectives and Programme Outcomes.

Step 2: - Head of the Department convenes meeting with teachers, alumni & representatives from OBE Committee. Programme Specific Outcomes are decided in this meeting.

Step 3: - Department Head of the Department (HoD) appoints Course in Charge (CiC) for each course. The Course outcomes are prepared by CiC in consultation with Head of the Department and other teachers who handle the subject if any.

Step 4: - The prepared CO are discussed in OBE committee and modifications are done.

Step 5: - The mapping matrix of CO to PO & PSO are done by CiC in consultation with HoD and Course level CO-PO/PSO matrix is prepared.

Step 6: - HoD collects all the CO-PO/PSO matrix of different courses for the programme and prepares the Programme level CO-PO/PSO matrix.

Step 7: - HoD and OBE committee evaluates the matrices and identifies the curriculum gap if any. OBE committee recommends co-curricular activities and contents beyond the syllabus to satisfy the PO and PSO requirements.

Step 8: - The CiC, HoD and OBE committee consolidates the CO-PO/PSO attainment of the programme with additional components like guest lectures, industrial visits, value added courses, nptel courses etc.

PUBLISHING AND DISSEMINATING PO, PSO AND CO

PUBLISHING

The Learning Outcomes are published in the College website. The PEOs and POs are published in College Handbook (Diary) and distributed to students and teachers. The PSOs and COs are incorporated in the syllabus of corresponding programmes. The learning outcomes are also published in the digital repository of Christ College. The PO and PSO are also published in Teachers diary.

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DISSEMINATING

Prospective students can access the learning outcomes through College website and Institutional E- repository. The PEOs and POs are described to enrolled students in detail during the student induction programme by Principal during his address. The PSOs and COs are elaborated to students by HoD and Class teacher during the student induction programme and also during the course introduction. Electronic copies of syllabus containing PSO and CO are distributed to students on their first day. The PSOs are displayed using stickers in the Department Office and Laboratories.

ASSESSMENT PROCESS FOR CO ATTAINMENT-DIRECT

The rubrics used for assessment of CO and PSO and PO are- Internal assessment contributes 20% and university assessment contributes 80% to the total attainment of a CO. The parameters used in Christ college for direct assessment and their frequencies. There should be a total of Eight parameters to be used for CO assessment. Out of which five parameters are compulsory for all students. Remaining three can be selected from the table.

Parameters	Description	Corresponding LO	Blooms Taxonomy	Frequency
Internal exam 1 *	Written exam (descriptive)	All CO	Remember, Understand,	one per semester
Internal exam 2 *	Moodle Online (multiple choice)	All CO	Understand, Apply	one per semester
Assignment- individual	Written assignment based on syllabus by individual student	Specific CO & PSO	Understand and Analyze	one per semester
Group assignment and seminar	Written assignment based on syllabus by Peer Learning Group and presentation	Specific CO & PSO	Understand and Analyze	one per semester
Attendance *	The attendance of student in regular theory classes and laboratories	PO1 to PO10	-	Daily
Seminar	Which measures subject knowledge and also presentation skills (to be related to PO on soft skills)	Specific CO, PSO & PO	Understand, Apply and Analyze	one per semester

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Students Club activities	Involvement in Students Club activities leading to leadership, team work, human values and social work	Specific PO	-	one per semester
Mini project	Yearly project (two in case of UG, One in PG) (Peer Learning Group)	Specific CO & PSO	Apply and Create	one per year
Major project*	Major project in the final year (Peer Learning Group)	Specific CO & PSO	Apply and Create	one per course
Comprehensive viva-internal	Viva voce examination -internal	All CO	Remember, Understand, Apply	one per semester
Comprehensive viva-external	Viva voce examination -external	All CO & PSO	Remember, Understand, Apply	one per year
University exam (end semester)*	Written exam (descriptive)	All CO & PSO	Remember, Understand	one per semester

- 5 Compulsory parameters

PARAMETERS OF ASSESSMENT PROCESS

INTERNAL EXAM 1

The internal exam 1 is designed to serve two purposes, a) to keep up with the course content and b) to get a practice before the end semester examination. The questions are framed to satisfy Bloom's taxonomy. Also, the questions should cover all the course outcomes.

INTERNAL EXAM 2

The second internal exam is conducted online through the moodle learning management system. Questions in this test are all multiple-choice questions and is designed to help the students to face the competitive examinations like JAM/NET and entrance examinations to various universities. Blooms taxonomy levels apply, analyze and evaluate are incorporated covering all the course outcomes.

ASSIGNMENT- INDIVIDUAL

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Assignments are an excellent tool to evaluate the writing skills and analytical ability. The individual assignment is graded according to the following grade sheet

Item	% marks
Timely submission (punctuality)	25 %
Subject content	50 %
Clarity & Writing skills	25 %

GROUP ASSIGNMENT AND SEMINAR

Students are also required to work on Group assignments. A detailed assignment like review paper is given to the Peer Learning Group and they are asked to write an assignment based on the subject. After submission there will also be a presentation based on the assignment. This group work helps in team building and also enhances one's ability to work in a team.

Item	% marks
Timely submission (punctuality)	25 %
Subject content	25 %
Clarity & Writing skills	25 %
Team work	25 %

ATTENDANCE

The punctuality of students is an important attribute Christ College aim for. The attendance of student to theory sessions, practical session and also to cultural programs are monitored. The grade for attendance will be published and will be intimated to parents.

SEMINAR

Students should complete one seminar presentation every semester. For the seminar, the student shall collect the information on a specialized topic and prepare a technical report, showing his understanding of the topic, and submit it to the Class teacher. Student should present the topic before Class teacher and fellow students.

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Item	% marks
Timely submission (punctuality)	25 %
Subject content	25 %
Presentation	25 %
Viva voce	25 %

STUDENTS CLUB ACTIVITIES

All students are required to join in any one of the student's clubs. The activities of student's club lead to leadership capabilities, ability to work in a team, conferment of human values, and social work. The activities are graded as per the table below. The marks are then related to corresponding Program Outcomes (PO).

MINI PROJECT-PEER LEARNING GROUP

There shall be a mini project in which the students should work on a problem which is application oriented. Students are required to work in a team to enhance communication and interpersonal skills. The work should be completed in two semesters.

Item	% marks
Timely submission (punctuality)	25 %
Subject content	25 %
Presentation	25 %
Team work	25 %

MAJOR PROJECT-PEER LEARNING GROUP

In the last year of the course there shall be an industry/research-oriented project work. For undergraduate students this will be a group project, while for Postgraduate students it will be an individual project.

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Item	% marks
Timely submission (punctuality)	25 %
Subject content	25 %
Presentation	25 %
Viva voce	25 %

COMPREHENSIVE VIVA-INTERNAL

There shall be a Viva voce examination at the end of every semester. Examiners will be two senior faculty from the department who will assess the learning levels of the student. Questions should be asked covering all the Course Outcomes. Examiners will grade students separately and average marks are assigned to student.

COMPREHENSIVE VIVA-EXTERNAL

Students should face the external viva-voce examination at the end of the course. This assesses student learning level on the core subjects.

UNIVERSITY END SEMESTER EXAM

The end semester exam conducted at the end of every semester should be framed to satisfy Bloom's taxonomy. Also, the questions should cover all the course outcomes.

ATTAINMENT OF COURSE OUTCOMES

After the assessment of course outcomes, the attainment is calculated as per the rubrics given below in case if detailed individual assessment has not been done.

Assessment methods	Attainment Levels	
Internal Assessment	Level 1	50% of students scoring more than 50% CO in internal assessment tools

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	Level 2	70% of students scoring more than 50% CO in internal assessment tools
	Level 3	80% of students scoring more than 50% marks in internal assessment tools
External Assessment	Level 1	50% of students scoring more than 50% CO in external assessment tools
	Level 2	70% of students scoring more than 50% CO in external assessment tools
	Level 3	80% of students scoring more than 50% CO in external assessment tools

ASSESSMENT PROCESS FOR PO/PSO ATTAINMENT DIRECT FROM CO ATTAINMENT

From CO attainment, the attainment of PO and PSO is calculated using the CO-PO/PSO matrix. The rubrics is as given below.

The correlation levels for CO-PO/PSO matrix are as given below

Correlation Level	Nomenclature	Values
No correlation (Nil)	N	"0"
Moderate (Medium)	M	"1"
Substantial (High)	H	"2"
Slight (Low)	L	"3"

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ASSESSMENT PROCESS FOR PO/PSO ATTAINMENT-INDIRECT

PARAMETERS FOR INDIRECT ASSESSMENT

Following parameters are utilized for indirect assessment of Learning Outcomes

- a) Graduate exit survey b) Employer/Higher institute survey

GRADUATE EXIT SURVEY

An exit survey should be conducted for the final year students who are about to graduate from the college. The questionnaire should have direct relation with POs and PSOs. A likert scale of 1-5 is used to evaluate the survey.

Questionnaire format & Relationship with PO/PSO

EMPLOYER/HIGHER INSTITUTE SURVEY

For indirect assessment another survey is conducted for students who are employed or pursuing higher students. The questionnaire is framed such that there is direct relation with PO and PSO on a likert scale of 1-5.

OVERALL PO/PSO ATTAINMENT

The rubrics to calculate overall attainment is as given below

Overall attainment of PO/PSO = 80% of Direct + 20 % of Indirect.

ASSESSMENT PROCESS FOR (PEO) PROGRAM EDUCATIONAL OBJECTIVES

Following rubrics is used to assess the program educational objectives from PO/PSO.

S.No	Name of the Evaluation Criterion	Weightages in %
Direct Assessment (80%)		

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1.	Direct Evaluation of Program Outcomes (POs) of the concerned PEO	60
2.	Placements	15
3.	Higher Studies	5
Indirect Assessment (20%)		
4.	Graduate Exit Survey	10
5.	Alumni Survey	10
Total		100

All the PEOs are assessed in the above manner using the PO/PSO- PEO matrix.

ATTAINMENT OF (PEO) PROGRAM EDUCATIONAL OBJECTIVES

The attainment of each PEO is measured separately. The expected level of attainment for each PEO is given as follows.

Level of Attainment	Grading
Value $\geq 75\%$	Very Good
Value ≥ 60 and value $< 75\%$	Good
Value ≥ 50 and value < 60	Satisfactory
Value < 50	Not Satisfactory

Finally, the average of all PEO is calculated to compare the attainment of PEO between different batches. If the overall attainment of Program Educational Objectives is below 50% necessary steps are taken by Governing Body to redefine PEOs. The PO, PSO and COs are also redefined accordingly.