SACRED HEART COLLEGE

OUTCOME BASED EDUCATION (OBE) MANUAL

ACADEMIC YEAR 2018 -19

IQAC, SH College, Thevara

INDEX

Abbreviations

OBE	Outcome Based Education
LOT	Lower Order of Thinking
PO	Program Outcome
PSO	Program Specific Outcome
PEO	Program Educational Objectives
CO	Course Outcome
UE	University Theory Exam
CE	Course Exit Survey
PC	Program Coordinator
PAC	Program Assessment Committee
BTL	Bloom's Taxonomy Level
HoD	Head of Department
DAB	Department Advisory Board
POE	Practical Oral Exam
AY	Academic Year

Introduction

Outcome-based education or outcomes-based education (OBE), also known as standards-based education, is an educational theory that bases each part of an educational system around goals (outcomes). By the end of the educational experience, each student should have achieved the goal. There is no single specified style of teaching or assessment in OBE; instead, classes, opportunities, and assessments should all help students achieve the specified outcomes.The role of the faculty adapts into instructor, trainer, facilitator, and/or mentor based on the outcomes targeted.

Through OBE enhances the traditional teaching methods are redefined and focuses falls on what the Institute provides to students. It shows the attainment level of the students using statements like "able to do" (at the end of the course) in favor of students. OBE provides clear standards for observable and measurable outcomes.

Benefits of OBE

- **Clarity:** The focus on outcome creates a clear expectation of what needs to be accomplished by the end of the course.

- **Flexibility:** With a clear sense of what needs to be accomplished, instructors will be able to structure their lessons around the students' needs.

- **Comparison:** OBE can be compared across the individual, class, batch, program and institute levels.

- **Involvement:** Students are expected to do their own learning. Increased student involvement allows them to feel responsible for their own learning, and they should learn more through this personal learning.

India, OBE and Accreditation

From 13th June 2014, India has become the permanent signatory member of the Washington Accord. Implementation of OBE in higher technical education also started in India. The National Assessment and Accreditation Council (NAAC) and National Board of Accreditation (NBA) are the autonomous bodies for promoting global quality standards for technical education in India. NBA has started accrediting only the programs running with OBE from 2013.

Outcome based Education focuses on the role of the students after completing their Programme. Before going to deliver the lecturer in the classroom, the teacher should fix the outcome and decide the Curriculum. The teacher should have the proper teaching-learning methodology based on effective tools available for the course, course objective, programme objectives etc. There are 3 types of OBE i.e. Traditional OBE, Transition OBE AND Transformation OBE. In the traditional OBE outcome is calculated using actual time table and normal class hours. Employability of the students can be ensured only if the teacher is properly updated. Traditional OBE focuses on the main loyalty, blooms taxonomy and knowledge. Under Transformation OBE students are considered as the future citizen. Principles of OBE are based on the high expectation of the students and extended opportunities. The vision and mission of the department and college should also be framed accordingly. The outcome is calculated by assessing the student's position at the time of employment. Programme outcomes, Programme specific outcome, domain specific outcome should be designed leading to the desired outcome. Outcome based education should have 5 outcomes. PEO should be measurable, appropriate, realistic, time bound and achievable based on the needs of stakeholders (parents, society and faculty). Learning outcome should be analyzed at the end of the course. Faculty should try to develop learning resources like video files, audio files, open source software etc.

Motto

"COR RECTUM INQUIRIT SCIENTIAM" (A Righteous Heart Seeks After Wisdom)

Vision

"Fashioning of an Enlightened Society founded on a Relentless Pursuit of Excellence, a Secular Outlook on Life, a Thirst for Moral Values as well as an Unflinching Faith in God."

Mission

"To provide an environment
- that facilitates the holistic development of the individual
- that enables the students to play a vital role in the nation building process and contribute to the progress of humanity.
- that disseminates knowledge even beyond the academia.
- that instils in the students, a feel for frontier disciplines and cultivates a concern for the environment.

by setting lofty standards in the ever evolving teacher-learner interface."

Graduate Attributes (HEARTIAN DNA)

- Faith in God and faith in oneself
- Physical and mental fitness
- Self-awareness and emotional intelligence
- Intercultural and ethical competency evidenced through a readiness to serve humanity (SH) & planet
- Critical thinking, problem solving and research aptitude
- Deep discipline knowledge
- Readiness to take the first step (leadership)
- Teamwork and communication skills (career readiness)

Programme Outcome: Undergraduate Programmes

- **PO 1: Critical Thinking:** Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions (intellectual, organizational, and personal) from different perspectives.
- **PO 2: Effective Communication:** Speak, read, write and listen clearly in person and through electronic media in English and in one Indian language, and make meaning of the word by connecting people, ideas, books, media and technology.
- **PO 3: Effective Citizenship:** Demonstrate empathetic social concern and equity centred national development, and the ability to act an informed awareness of issues and participate in civic life through volunteering.
- **PO 4: Environment and Sustainability:** Understand the issues of environmental contexts and sustainable development.
- **PO 5: Ethics:** Recognise different value systems including your own, understand the moral dimensions of your decisions, and accept responsibility for them.
- **PO 6: Global Perspective:** Understand the economic, social and ecological connections that link the world's nations and people.

Programme Outcome: Postgraduate Programmes

- **PO 1:** Exercise their critical thinking in creating new knowledge leading to innovation, entrepreneurship and employability
- **PO 2:** Effectively communicate the knowledge of their study and research in their respective disciplines to their stakeholder sand to the society at large.
- **PO 3:** Make choices based on the values upheld by the college, and have the readiness and know-how to preserve environment and work towards sustainable growth and development
- **PO 4:** Develop an ethical view of life, and have a broader (global) perspective transcending the provincial outlook
- **PO 5:** Explore new knowledge independently for the development of the nation and the world and are able to engage in a lifelong learning process

SACRED HEART COLLEGE OBE FRAMEWORK
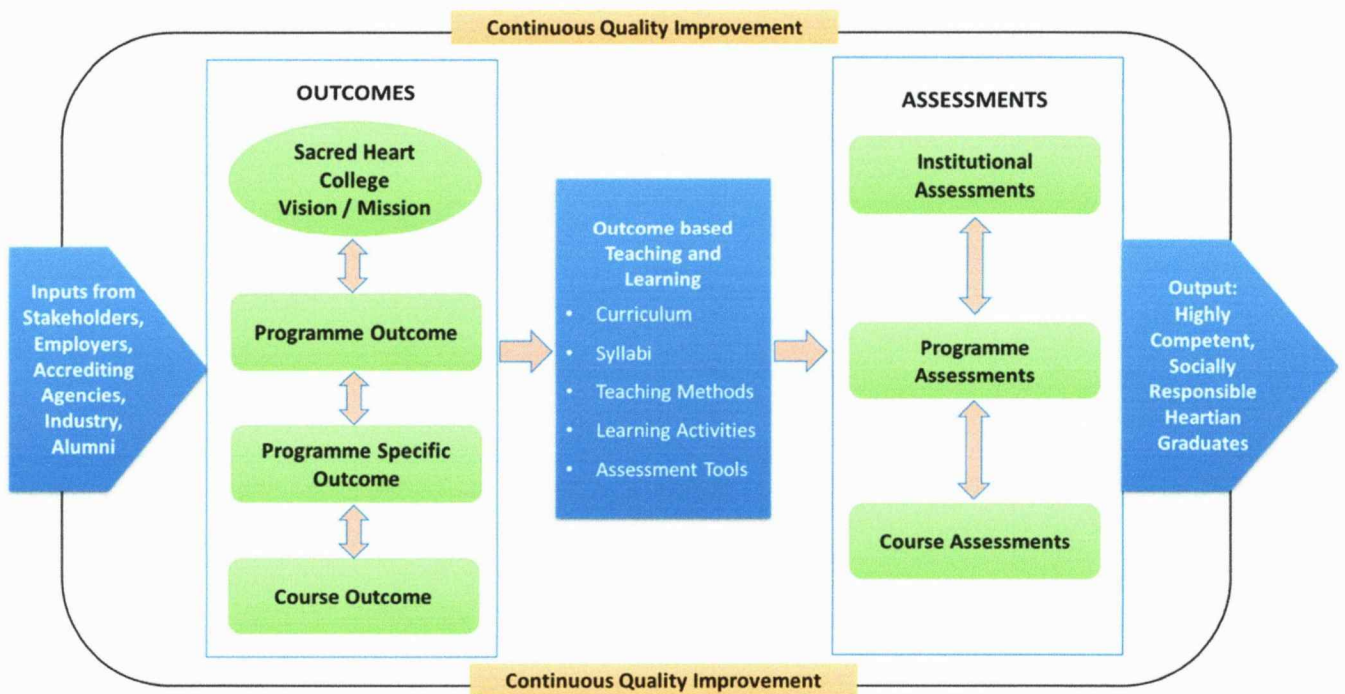
Blooms taxonomy

Bloom's Taxonomy was develped by Benjamin Bloom in 1956, published as a kind of classification of learning outcomes and objectives that have, been used for everything from framing digital tasks and evaluating apps to writing questions and assessments.

The original sequence of cognitive skills was Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation. The framework was revised in 2001 by Lorin Anderson and David Krathwohl, yielding the revised Bloom's Taxonomy. The most significant change was the removal of 'Synthesis' and the addition of 'Creation' as the highest-level of Bloom's Taxonomy. And being at the highest level, the implication is that it's the most complex or demanding cognitive skill–or at least represents a kind of pinnacle for cognitive tasks.

BLOOM'S TAXOMONY - COGNITIVE DOMAIN (2001)

HIGHER-ORDER THINKING SKILLS

LOW-ORDER THINKING SKILLS

CREATING
Use information to create something new

EVALUATING
Examine information and make judjements

ANALYSING
Take apart the known and identify realationships.

APPLYING
Use information in a new(but similar) situation.

UNDERSTANDING
Grasp meaning of instructional materials.

REMEMBERING
Recall specific facts.
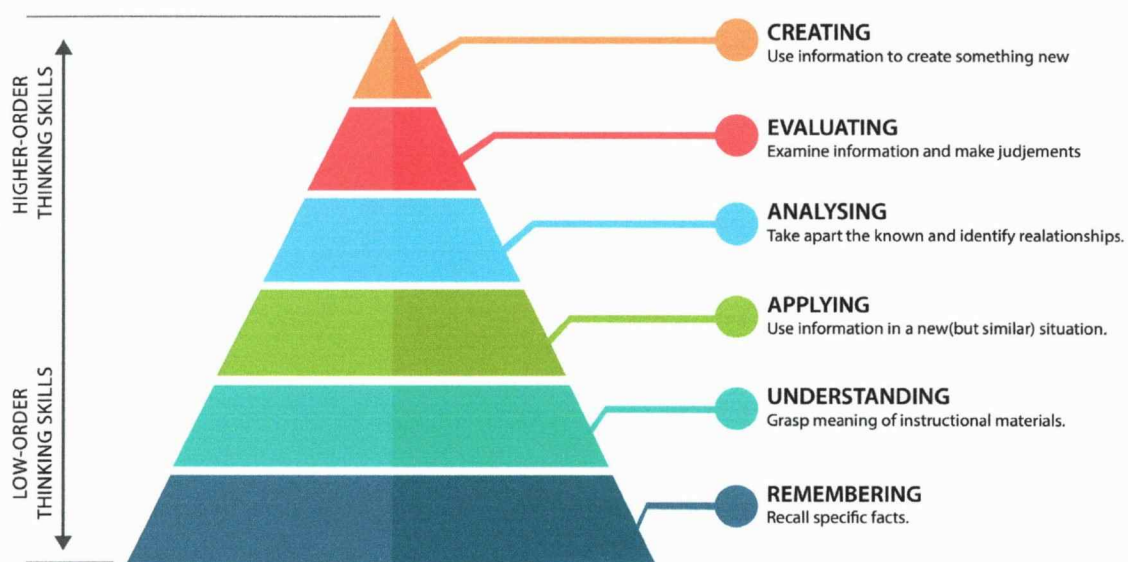
The cognitive process dimensions vs Knowledge Dimension

THE COGNITIVE PROCESS DIMEONSIONS - CATEGORIES

LOWER ORDER OF THINKING   **HIGHER ORDER OF THINKING**

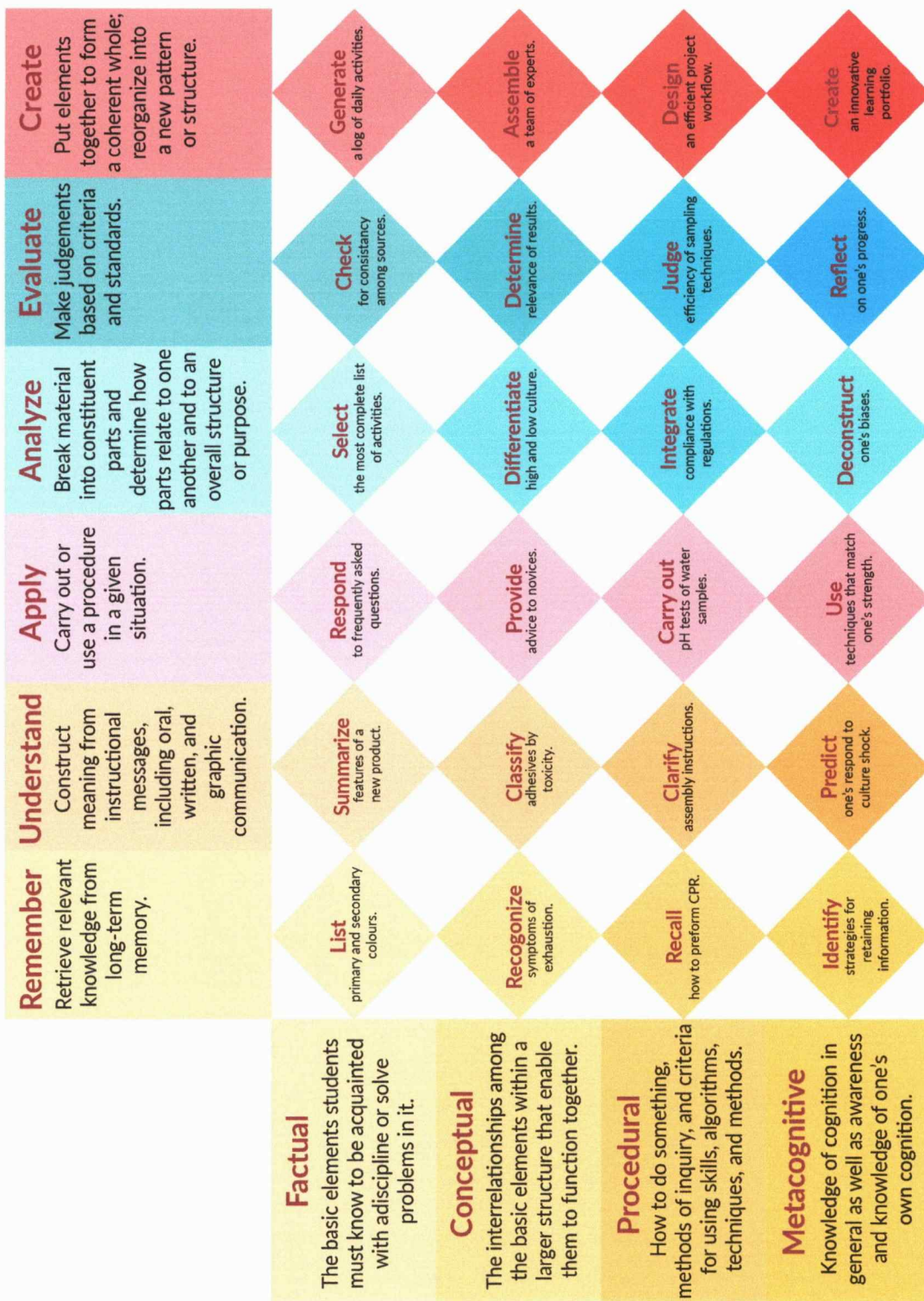| REMEMBERING	UNDERSTANDING	APPLYING	ANALYZING	EVALUATINGING	CREATINGING
Choose	Associate	Apply	Analyze	Agree	Adapt
Define	Compute	Build	Assume	Appraise	Build
Find	Convert	Choose	Categorize	Assess	Change
How	Classify	Construct	Classify	Award	Choose
Label	Defend	Develop	Compare	Choose	Combine
List	Demonstrate	Experiment	Conclusion	Compare	Compile
Match	Distinguish	with	Contrast	Conclude	Compose
Name	Discuss	identify	Discover	Criteria	Construct
Omit	explain	Interview	Dissect	Criticize	Create
Recall	express	Make use of	Distinguish	Decide	Delete
Relate	extend	Model	Divide	Deduct	Design
Select	estimate	Organize	Examine	Defend	Develop
Show	extrapolate	Plan	Function	Determine	Discuss
Spell	Generalize	Select	Inference	Disprove	Elaborate
Tell	Give examples	Solve	Inspect	Estimate	Estimate
What	Illustrate	Utilize	List	Evaluate	Formulate
When	Indicate		Motive	Explain	Happen
Where	Interrelate		Relationships	Importance	Imagine
Which	Interpret		Simplify	Influence	Improve
Who	Infer		Survey	Interpret	Invent
Why	Match		Take part In	Judge	Make up
	Predict		Test for	Justify	Maximo«
	Paraphrase		Theme	Mark	Minimize
	Represent			Measure	Modify
	Restate			Opinion	Original
	Rewrite			Perceive	Originate
	Select			Prioritize	Plan
	Show			Prove	Predict
	Summarize			Rate	Propose
	Tell			Recommend	Solution
	Translate				

Action Verbs for Course Outcomes

- **Remember:** Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers.
- **Understand:** Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas.
- **Apply:** Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.
- **Analyze:** Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations.
- **Evaluate:** Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria.
- **Create:** Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.

THE KNOWLEDGE DIMENSION			
Concrete Knowledge $\longrightarrow$		Abstract Knowledge	
Factual	**Conceptual**	**Procedural**	**Metacognitive**
• Knowledge of terminologies	• Knowledge of classifications and categories	• Knowledge of subject specific skills and algorithms	• Strategic Knowledge
• Knowledge of specific details & elements	• Knowledge of principles & generalizations	• Knowledge of subject specific techniques and methods	• Knowledge about cognitive task appropriate contextual and conditional Knowledge
	• Knowledge of theories, models & structures	• Knowledge of criteria for determining when to use appropnate procedures	• Self- Knowledge

The Cognitive Process Dimension

The Knowledge Dimension	Remember — Retrieve relevant knowledge from long-term memory.	Understand — Construct meaning from instructional messages, including oral, written, and graphic communication.	Apply — Carry out or use a procedure in a given situation.	Analyze — Break material into constituent parts and determine how parts relate to one another and to an overall structure or purpose.	Evaluate — Make judgements based on criteria and standards.	Create — Put elements together to form a coherent whole; reorganize into a new pattern or structure.
Factual — The basic elements students must know to be acquainted with a discipline or solve problems in it.	List primary and secondary colours.	Summarize features of a new product.	Respond to frequently asked questions.	Select the most complete list of activities.	Check for consistency among sources.	Generate a log of daily activities.
Conceptual — The interrelationships among the basic elements within a larger structure that enable them to function together.	Recognize symptoms of exhaustion.	Classify adhesives by toxicity.	Provide advice to novices.	Differentiate high and low culture.	Determine relevance of results.	Assemble a team of experts.
Procedural — How to do something, methods of inquiry, and criteria for using skills, algorithms, techniques, and methods.	Recall how to preform CPR.	Clarify assembly instructions.	Carry out pH tests of water samples.	Integrate compliance with regulations.	Judge efficiency of sampling techniques.	Design an efficient project workflow.
Metacognitive — Knowledge of cognition in general as well as awareness and knowledge of one's own cognition.	Identify strategies for retaining information.	Predict one's respond to culture shock.	Use techniques that match one's strength.	Deconstruct one's biases.	Reflect on one's progress.	Create an innovative learning portfolio.

The Knowledge Dimension

Well-written course outcomes involve the following parts:

1. Action verb
2. Subject content
3. Level of achievement as per BTL
4. Modes of performing task (if applicable)

Illustration:

Students are able to

1. <u>Design</u> column splices and bases. Action verb (underlined)
2. Determine the <u>losses in a flow system.</u> Subject content (underlined)
3. Use structural analysis software <u>to a competent Level.</u> Level of achievement (underlined)
4. <u>Present seminar</u> on real life problems. Modes of performing task with action verb (underlined)

While writing COs the following questions/points must be addressed properly.

Specific

Is there a description of precise behaviour and the situation in which it is performed? Is it concrete, detailed, focused and defined?

Measurable

Can the performance of the outcome be observed and measured ?

Achievable

With a reasonable number of efforts and application can the outcome be achieved? Are you attempting too much?

Relevant

Is the outcome important or worthwhile to the learner or stakeholder ? Is it possble to achieve this outcome ?
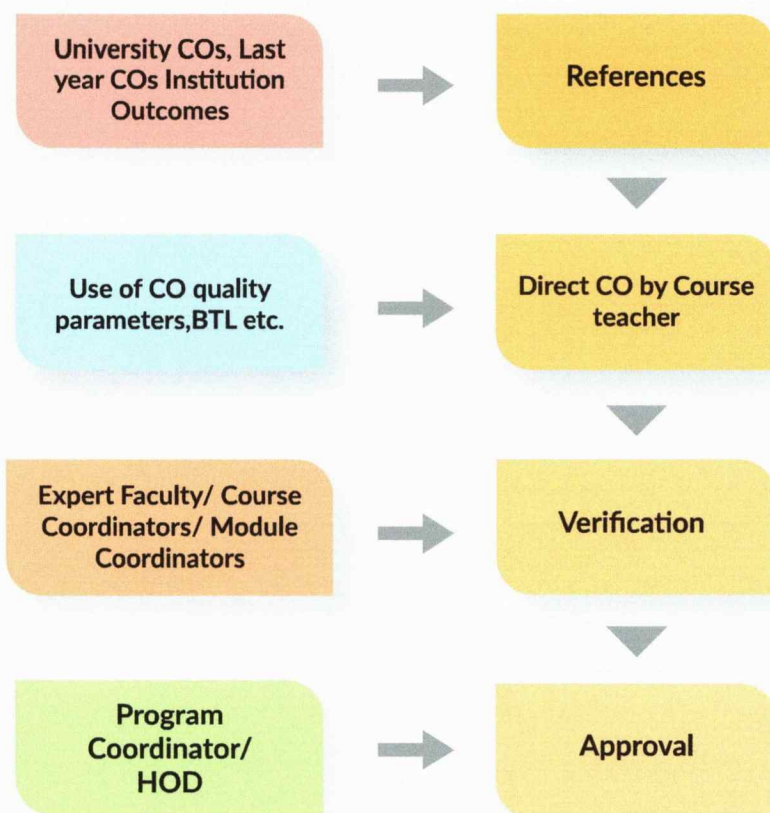
Time-Bound

Is there a time limit, rate, number, percentage or frequency clearly stated ? When will this outcome be accomplished ?

Note: If Laboratory is given as separate course (with course code) then there should be separate course outcomes for Laboratory. Evaluation of laboratory outcomes done by preparing report on the performance of students in each experiments.

Quality of Course Outcome

CO Quality measures at department Level

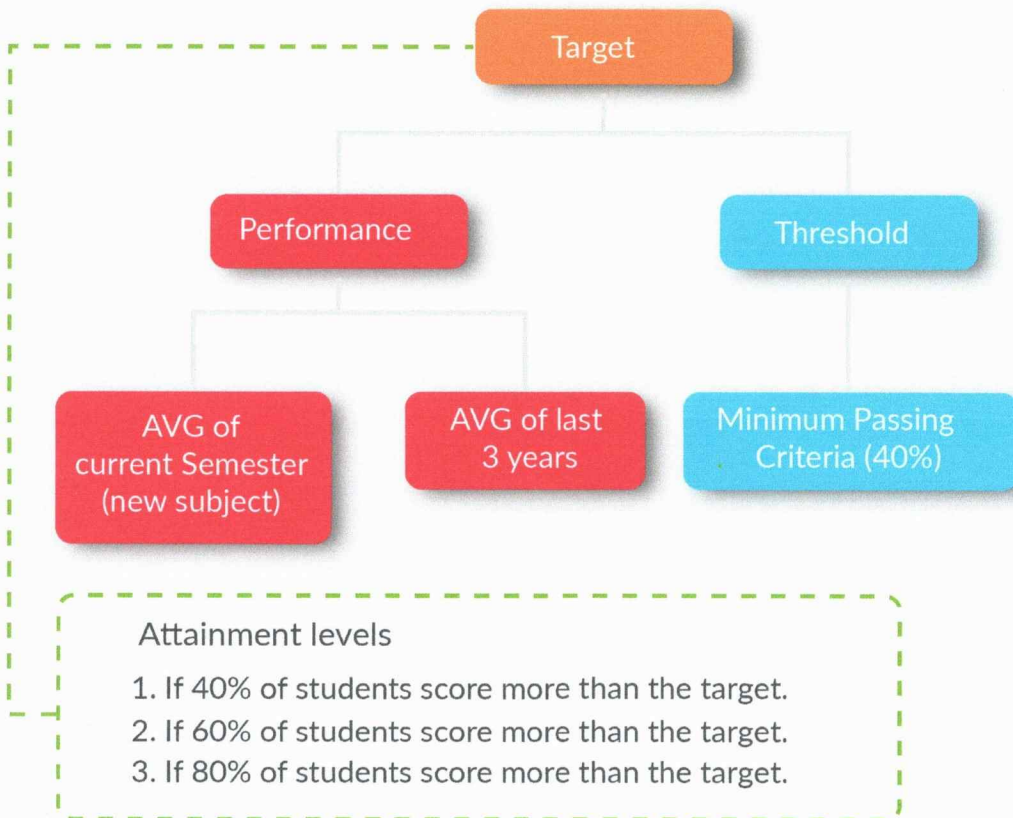|		
University COs, Last year COs Institution Outcomes	→	References
Use of CO quality parameters,BTL etc.	→	Direct CO by Course teacher
Expert Faculty/ Course Coordinators/ Module Coordinators	→	Verification
Program Coordinator/ HOD	→	Approval

Guidelines/Checklist for COs:

Number of COs	4 to 6
CO essentials	Action Verb, Subject Content, Level of Achievement, Modes of Performing task (If Applicable)
Based on BTL	Understand, Remember, Apply, Analyse,Evaluate, Create
Number of BTL Considered in one course	Minimum 3
Technical Content/ point of curriculum	All curriculum contents are covered
Curriculum gap	Additional CO for gap identified/filling. Adds more weightage

CO-PO Mapping Guidelines

Different criteria are used for representing the strength between CO and PO. Most of the times, appropriate keyword is sufficient for mapping.
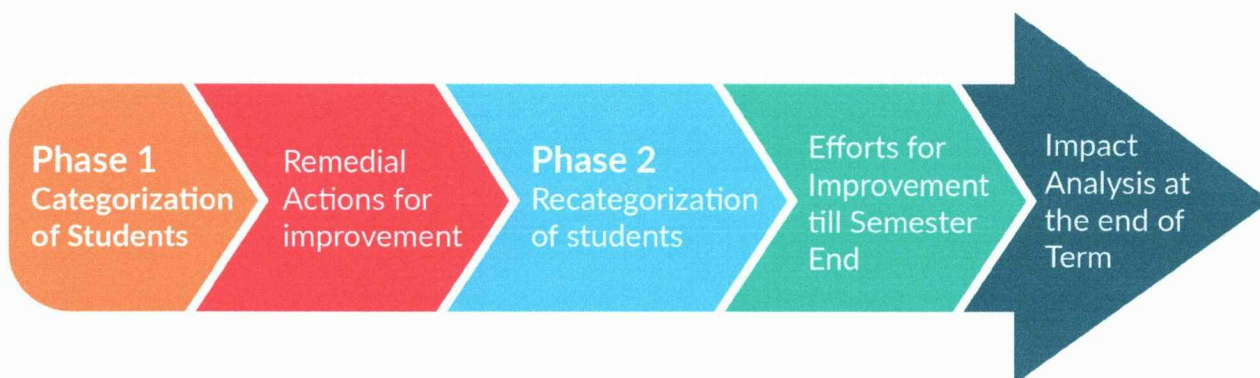
Level	Keywords Used in writing COs
No mapping(-)	Key words related with LOT and not related with course or any outcomes
Low(1)	Part of PO is reflected through keywords/action verbs
Medium(2)	Major part of PO is reflected through keywords/action verbs. + moderate level performance is expected from student to achieve PO
High(3)	Exact action verb of PO + critical performance expected from student to achieve PO

Targets/ Attainment Levels

```
                              Target

              Performance                    Threshold

    AVG of          AVG of last         Minimum Passing
current Semester      3 years           Criteria (40%)
 (new subject)
```

Attainment levels

1. If 40% of students score more than the target.
2. If 60% of students score more than the target.
3. If 80% of students score more than the target.

Student Competency

Chart of Action Plan:

Phase 1 Categorization of Students → Remedial Actions for improvement → **Phase 2** Recategorization of students → Efforts for Improvement till Semester End → Impact Analysis at the end of Term

Guidelines for First Year

Phase I- Categorization (After 15 Days of start of semester)	Phase II- Re-categorization (After Mid Term Result)
12 Marks	Mid Term Result
Prerequisite Test	Timely Completion of work
Surprise Test after 15 days	Lab Performance
Attendance & Behaviour	Attendance & Behaviour
	Previous Semester University Result (Applicable for Sem-II)

Guidelines for Higher Classes [SY, TY & BE]

Phase I- Categorization (After 15 Days of start of semester)	Phase II- Re-categorization (After Mid Term Result)
Previous semester University Result whichever is available	Mid Term Result
Prerequisite Test	Timely Completion of work
Surprise Test after 15 days	Lab Performance
Attendance & Behaviour	Attendance & Behaviour
	Previous semester University Result

Base Score for student category:

<40% - S low Learner

40% to 60% - Average Learner

>60%- Advanced Learnerstudents in each experiments.

Strategies for Slow, Average and Advanced Learners:

For Slow learners

- Document/record of remedial classes with timetable & attendance
- Specially designed assignment/ task
- Student study group for peer-to-peer learning
- Individual Counselling
- Student help desk

Note: Remedial sessions should be conducted once every week.

For Average Learners

- Additional assignment/ task
- Encouraging for timely and effective completion of work
- Conduction of quiz, orals etc.
- Solving previous year University question papers and test papers
- Presentation on technical topics/ case studies/mini projects

Note: Activities should be on continuous basis.

For Advanced Learners

- Encouraging presenting & publishing papers in journals/conferences/ competitions
- Guidance for NET/JRF and competitive Examination
- Encouraging participating in professional activities.
- Specially designed activities to improve the portfolio of students.
- Individual guidance for career building

Note: Activities should be on continuous basis.
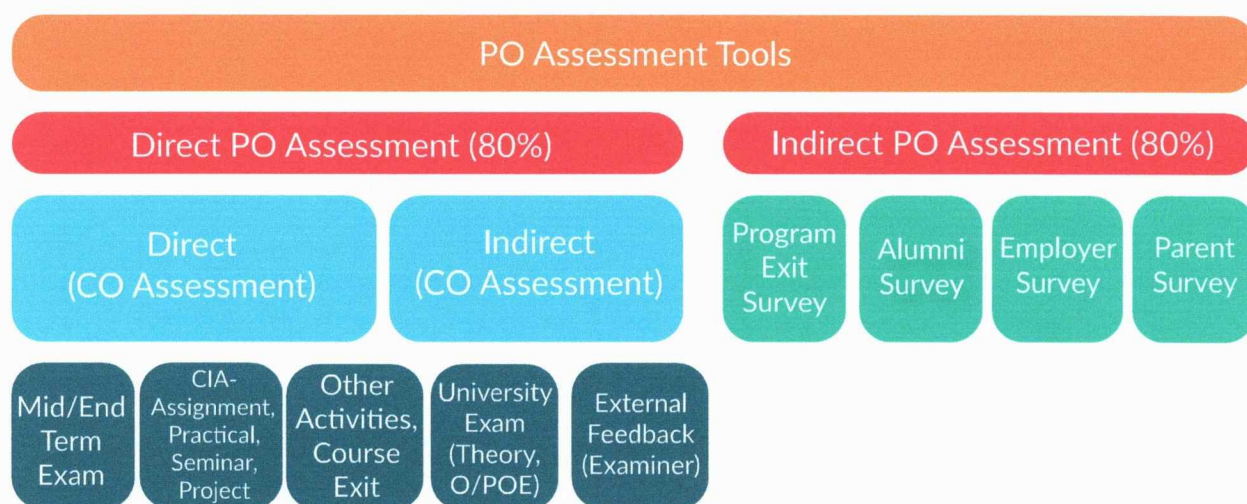
List of Assessment Tools

All (Direct + Indirect) CO Assessment Tools = PO Direct Assessment Tools

Sample CO Assessment Tools

- Mid Term Test
- End Term Test
- Quiz
- Assignment
- Practical/ Lab work
- Industrial Visit, Workshop
- Other Task/Activity

- University Exam
- Oral/POE
- Course Exit Survey
- External Feedback (External Examiner/ Trainer, Campus Placement Technical Expert)

Direct Tools: (Measurable in terms of marks and w.r.t. CO) Assessment done by faculty at Institute level

Indirect Tools: (Non measurable in terms of marks and w.r.t. CO) Assessment done at University /Institute Level

Sample Indirect PO assessment Tools

- Program Exit Survey
- Alumni Survey
- Employer Survey of Alumni
- Parent Feedback

CO Attainment Calculations

Attainment Weightage:

Consider following weightage for PO Assessment Tools

PO Assessment Tools	
Direct PO Assessment (80%)	Indirect PO Assessment (20%)

Consider following weightage for CO Assessment Tools

PO Direct Assessment Tools = CO Assessment Tools

CO Assessment	
Direct CO Assessment (60%)	Indirect CO Assessment (40%)

The CO attainment for each courses evaluated through various assessment tools
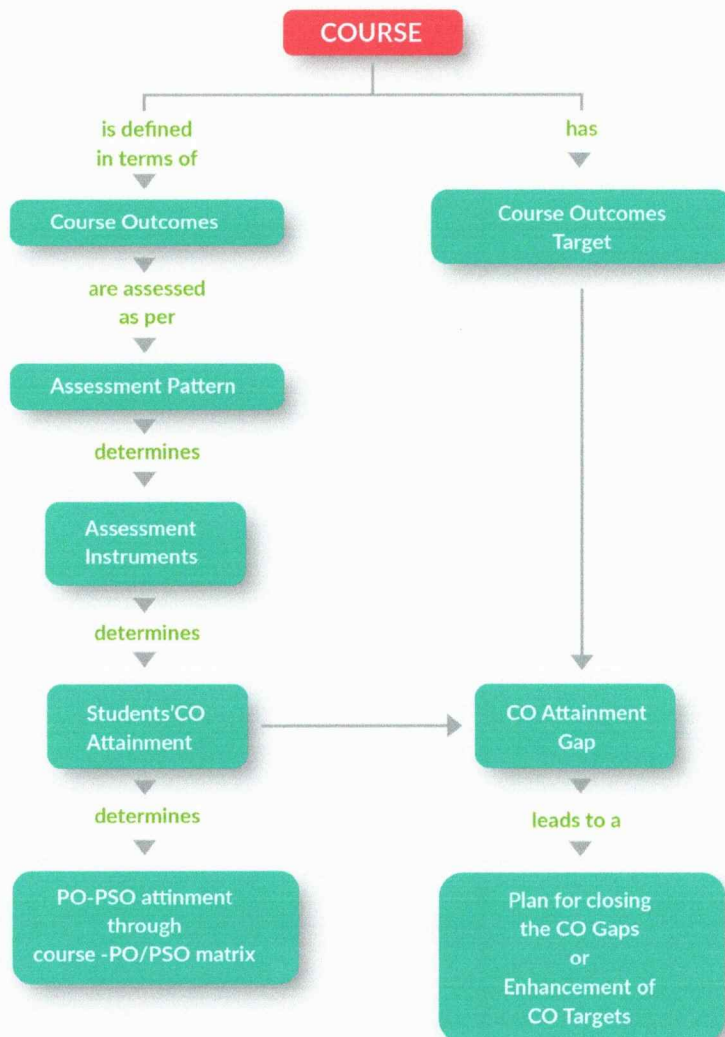
Attainment of COs measured directly and indirectly and the proportional weightages of direct to indirect assessment is 60:40. Indirect attainment of COs be determined from end semester examination and the course exit surveys (which can be optional). Direct attainment of COs can be determined from the performances of students in all the relevant assessment tools. The tools may be Assignment, Seminar, CIA-1, CIA-2, Quiz, Assignment, Practical/ Lab work, Industrial Visit, Workshop, Other Task/ Activity. Teacher prepares courses plans at the beginning of the semester with course outcomes, cognitive level of each CO, mapping strength of COs to POs and PSOs

Sample CO attainment calculations

Course: Operating System

Faculty Name: Mr. Santhosh Kumar K.P.

No. of Students: 26

Sample COs

COURSE OUTCOMES	CO DESCRIPTION	PO/PSO	CL	Evaluation
CO 1	Identify mechanism to handle process, memory,I/O devices, and files and develop an appropriate algorithm for it.	PO1, PO2, PO6, PSO2, PSO3	U	T1,A
CO 2	Discuss isses of Process Management including process structure, synchronization, scheduling and communication.	PO1, PSO2, PSO3	A	T1,A
CO 3	Interpret the reasons for deadlock state, and the solution methods to handle it.	PO1, PO2, PSO1	U	T2,A
CO 4	Differentiate type of memory management techniques used by Operating system	PO1, PO2, PSO1,PSO2, PSO4	An	T2,S
CO 5	Appreciate the needs of access control and protection in an operating system	PO1, PO2, PO3, PO4, PO5, PSO2, PSO3	U	A

T1-CIA I, T2-CIA 2, A – assignment, S- seminar

Average of attainment for each Question in Test I

Q No.	ANY ONE		ANY THREE				ANY ONE		ANY ONE		TOTAL
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	
Max. mark	1	1	2	2	2	2	5	5	12	12	
x	1		1	2				2	4		10
x		1			2		2			3	8
x	1				2	2		4	6		15
x		1	2				3			4	10
x	1			2				4	4		11
x		1			1	1	1			4	8
x			2		2		4			8	16
x		0.5		1.5				2	8		13
x		1	1			2					4
x	1			2	1	2		4		8	18
x		1		2	1		4.5		8		16.5
x	1			2			3			7	13
x		1	2		1.5		4.5			8	17
x		0.5	1.5			2		3	6		13
x	1			1.5		1.5		4	7		15
x		0.5	0.5		1			4	6		12
x		1	2	1.5	2		4.5		11		22
x		1	2		2	1.5	4.5			11	22
x	1		1	1	2			4	11		20
x	1			2	1.5	1	4.5		11		21
x		1		1	1		3		3		9
x	1		1			2		4		10	18
x		0.5	0.5	1	2		4			11	19
x				1	1	1	3		11		17
x		1			1			3		8	13
x		0.5	0.5	0.5		0.5		1	2		5
Average	1	0.84	1.36	1.53	1.53	1.54	3.61	3.38	7.33	7.83	

CO attainment for the course

Tool	Maximum Mark	Average Mark	Weightage (%)				
			CO 1	CO 2	CO 3	CO 4	CO 5
T1-Q1	1	1		1			
T1-Q2	1	0.84	1				
T1-Q3	2	1.36	1				
T1-Q4	2	1.53	1				
T1-Q5	2	1.53		1			
T1-Q6	2	1.54		1			
T1-Q7	5	3.61	1				
T1-Q8	5	3.38		1			
T1-Q9	12	7.33	1				
T1-Q10	12	7.83		1			
T2-Q1	1	1				1	
T2-Q2	1	0.84			1		
T2-Q3	2	1.36			1	1	
T2-Q4	2	1.53					
T2-Q5	2	1.53				1	
T2-Q6	2	1.54				1	
T2-Q7	5	3.61			1		
T2-Q8	5	3.38				1	
T2-Q9	12	7.33			1		
T2-Q10	12	7.83				1	
S1	5	4			1		1
S2	5	4.25				1	
A1	5	3.98	1				
A2	5	4.1		1			
A3	5	3.75					1
Max CO Score*			27	22	25	29	10
CO Attained**			18.65	19.38	17.14	20.89	7.75
CO Attained(%)			69.08	88.09	68.56	72.03	77.5
Direct CO Attainment (60%)			69.08	88.09	68.56	72.03	77.5
University result (40%)			65	65	65	65	65
Final CO Attainment			67.448	78.854	67.136	69.218	72.5
Attainment target			60	60	60	60	60
Attainment result			PASS	PASS	PASS	PASS	PASS

MM=Maximum marks, AM= Average Marks (Attained for a CO), n=number of evaluation questions associated with a CO. CO weightage = percentage of CO impact depicted in a range 0-1

*Max. CO 1 Score= $\sum_{k=0}^{n}$ MM*CO1 weightage

**CO 1 Attained= $\sum_{k=0}^{n}$ AM*C01 weightage

***Final CO Attainment = (60 % x Direct CO attainment) + (40% x Indirect CO attainment) for Autonomous Pattern

Note: Appropriate % weightage distribution may be considered for any number of direct/indirect assessment tools with proper justification at institution level.

PO attainment calculation

COs	CO attained	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PSO 1	PSO 2	PSO 3	PSO 4
CO 1	67.448	1.35	1.35	0	0	0	0.67	0	2.02	2.02	0
CO 2	78.854	0.79	0.79	0	0	0	0	0	0	2.37	0
CO 3	67.136	2.01	0.67	0	0	0	0	2.01	0	0	0
CO 4	69.218	0.69	0.69	0	0	0	0	1.38	1.38	0	2.08
CO 5	72.5	1.45	1.45	1.45	0.73	2.18	0	0	0	2.18	2.18
Operating system	PO mapping strength	1.8	1.4	2	1	3	1	2.5	2.5	3	3
	PO attained	1.258	0.99	1.45	0.725	2.175	0.67	1.695	1.7	2.19	2.13

PO1 attainment Calculation by CO 1

PO 1 attainment by CO1= (CO1 attainment * CO1 mapping strength)/100

= (2*67.448)/100

=1.35

PO1 attainment Calculation by all COs

PO 1 attainment= Avg(PO 1 attainment by CO1+ PO 1 attainment by CO2+ PO 1 attainment by CO3+ PO 1 attainment by CO4+ PO 1 attainment by CO5)

= Avg(1.35+.79+2.01+.69+1.45) = 1.258

Repeat this for all POs and PSOs

PO Attainment Calculations

Average PO mapping strength Calculation

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PSO 1	PSO 2	PSO 3	PSO 4
CO 1	2	2							3	3
CO 2	1	1							3	
CO 3	3	1					3			
CO 4	1	1					2	2		3
CO 5	2	2	2	1	3				3	3
PO mapping strength	1.8	1.4	2	1	3	1	2.5	2.5	3	3

Mapping Strength

- No Mapping strength
- Low
- Medium
- High

PO 1 mapping strength = Average of PO 1 mapping strength by corresponding COs

= average (2+1+3+1+2)=1.8

PO attainment at department level

Consolidated Mapping strength at department for a batch

Semester	Course	PO 1	PO2	PO 3	PO 4	PO 5	PO 6	PSO 1	PSO 2	PSO 3	PSO 4
1											
	. .										
2											
	Operating system	1.8	1.4	2	1	3	1	2.5	2.5	3	3
	. .										
6											

Consolidated PO attainment at department for a batch

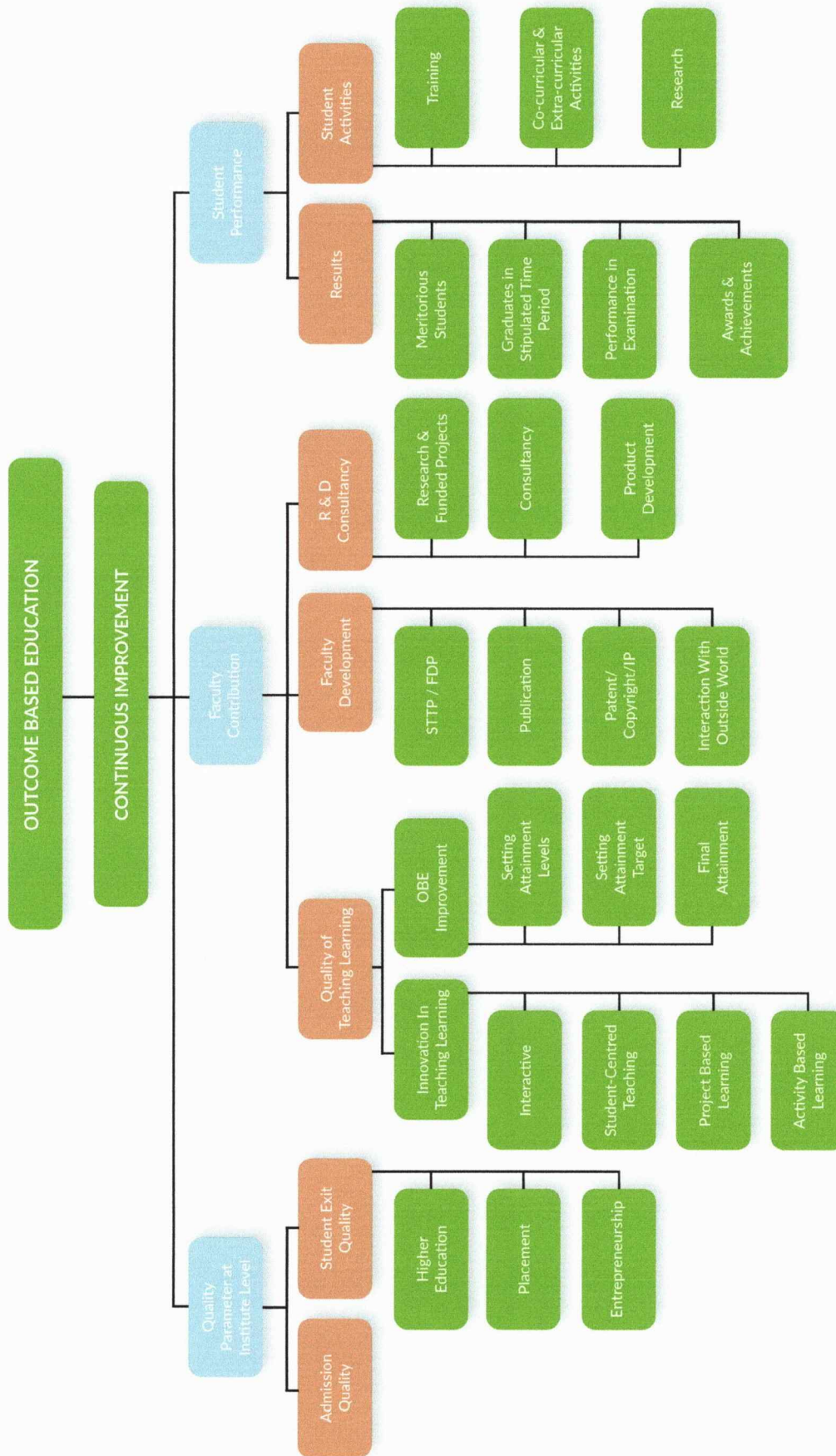| Semester	Course	PO 1	PO2	PO 3	PO 4	PO 5	PO 6	PSO 1	PSO 2	PSO 3	PSO 4
1											
	. .										
2											
	Operating system	1.258	0.99	1.45	0.725	2.175	0.67	1.695	1.7	2.19	2.13
	. .										
6											

Continuous Improvement

A) Contribution of CO in PO attainment and Continuous Improvement (Faculty Level)

- Set new higher targets or attainment levels for next Academic Year (A.Y.).
- Record observations, Continue action plan of last A.Y. with plan for improvements.
- Record observations, Critical assessment of target with Program Assessment Committee (PAC), Revise action plan of last A.Y. at faculty/department level if CO_PO not attained.

PO/PSO attainment for the Program through
Core Courses
Projects
Presentations
Co-curricular Activities
Extra-curricular Activities

PO/PSO attainment Gap

PO/PSO Targets

leads to

Plan for closing the PO/PSO gaps
or
for enhancement of PO/PSO targets
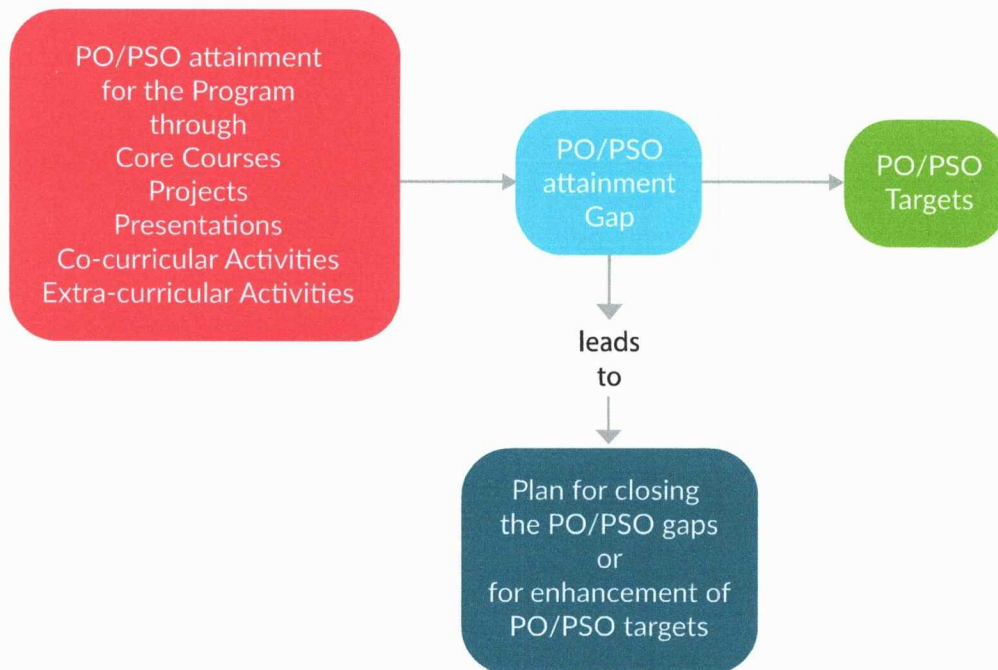
PO attainment and Continuous Improvement (PC and HoD Level)

- Include activities with HOT.
- Identify concerned courses, plan for immediate improvements, guide, support and monitor its execution.
- Critical assessment, impact analysis to be done and revise as per the need for improvements.

OUTCOME BASED EDUCATION

CONTINUOUS IMPROVEMENT

Student Performance

- **Student Activities**
  - Training
  - Co-curricular & Extra-curricular Activities
  - Research
- **Results**
  - Meritorious Students
  - Graduates in Stipulated Time Period
  - Performance in Examination
  - Awards & Achievements

Faculty Contribution

- **R & D Consultancy**
  - Research & Funded Projects
  - Consultancy
  - Product Development
- **Faculty Development**
  - STTP / FDP
  - Publication
  - Patent/ Copyright/IP
  - Interaction With Outside World
- **Quality of Teaching Learning**
  - OBE Improvement
    - Setting Attainment Levels
    - Setting Attainment Target
    - Final Attainment
  - Innovation In Teaching Learning
    - Interactive
    - Student-Centred Teaching
    - Project Based Learning
    - Activity Based Learning

Quality Parameter at Institute Level

- **Student Exit Quality**
  - Higher Education
  - Placement
  - Entrepreneurship
- **Admission Quality**

VISION

"Fashioning of an Enlightened Society founded on a Relentless Pursuit of Excellence, a Secular Outlook on Life, a Thirst for Moral Values as well as an Unflinching Faith in God."

MISSION

To provide an environment
- that facilitates the holistic development of the individual
- that enables the students to play a vital role in the nation building process and contribute to the progress of humanity.
- that disseminates knowledge even beyond the academia.
- that instils in the students, a feel for frontier disciplines and cultivates a concern for the environment.

by setting lofty standards in the ever evolving teacher-learner interface."

QUALITY POLICY

As an institution of Higher Education, Sacred Heart College is committed to providing high quality educational products and services appropriate to the purpose of the organization, supportive of its vision, mission and framework of objectives, which take into account relevant educational, scientific and technical developments, meeting social responsibility, managing intellectual property and fulfilling the aspirations of learners and all other stakeholders, leading to a just and enlightened society.

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