



ST. JOSEPH'S COLLEGE OF ARTS & SCIENCE (AUTONOMOUS) CUDDALORE - 607001.

IMPLEMENTATION OF OUTCOME BASED EDUCATION

As an Autonomous college, St. Joseph's College of Arts & Science follows the Semester pattern with Choice Based Credit System requiring 3 years of study for an undergraduate degree programme and 2 years of study for a post-graduate program in Arts & Science. The duration of each semester is 90 working days.

Outcome-Based Education (OBE) an Introduction:

OBE is an educational approach centered on clearly defining specific learning outcomes or competencies that students are expected to achieve upon completing an academic program. It emphasizes a student-centric instructional model, focusing on measurable outcomes related to knowledge, skills, and attitudes. The core objective of OBE is to ensure that graduates possess the required competencies, behaviors, and attributes as outlined by the program's learning goals.

Key Features for OBE Implementation:

- **Curriculum Framework Development:** Designing a curriculum that defines specific, measurable, and program-aligned learning outcomes.
- **Instructional Methodology:** Adopting teaching strategies that align with and support the achievement of the stated outcomes.
- **Standards-Based Assessment:** Implementing assessments to evaluate students' attainment of the defined outcomes and competencies.

OBE fosters continuous improvement through data-driven evaluation of learning achievements, ensuring that graduates meet the evolving expectations of academia, industry, and society. It aligns with the focus on quality assurance by emphasizing accountability, measurable performance, and alignment with institutional objectives.

OUTCOME BASED EDUCATION (OBE):

The College initiated implementing Outcome Based Education (OBE) in the year 2018-2019 based on the guidelines of the UGC. The curriculum is designed to align with global best practices, ensuring that graduates acquire the essential knowledge, skills, values, and competencies. According to UGC guidelines, outcomes are specified as Programme Outcomes (POs), Programme Specific Outcomes (PSOs), and Course Outcomes (COs), ensuring all educational activities are aligned with these objectives.

OBE ensures the focus on teaching and learning, based on achievable and measurable outcomes. The POs, PSOs are framed as per the guidelines of the UGC by the Curriculum Development Cell and the Office of the Dean and circulated among the departments. The COs for the courses are framed in the respective Boards of Studies after a detailed discussion.

The POs, PSOs and COs are communicated to the faculty members and to the students through printed syllabus, SJC ERP - Academic Management System and College website. The same is communicated to the freshers during Students Induction Programme conducted before the beginning of the academic year. Teachers who handle various courses explain course outcomes at the beginning of the course.

PROGRAMME OUTCOMES (PO):

POs describe what graduates are expected to know, understand, and be able to do by the end of the program. These are designed to define the academic standards that all students should achieve upon completing their programme, aligning with the college's Vision, Mission, and Goals.

PROGRAMME SPECIFIC OUTCOMES (PSO):

The Programme Specific Outcome (PSO) outlines the expected accomplishments of students in a particular academic program upon its completion. The PSOs detail the skills, knowledge, and abilities that graduates will possess upon completing the specific programme.

COURSE OUTCOMES (CO): Course Outcomes (COs) describe the specific skills, knowledge, and abilities that students are expected to acquire upon completing a particular course. The courses are designed to equip students with the necessary skills and knowledge, and students can have a clear understanding of what they are expected to achieve by the end of the course.

UNDER GRADUATE PROGRAMMES (UG):

At the end of Under Graduate Programme at St. Joseph's College of Arts & Science (Autonomous)

PO1: The students find their footings in life through wholesome and integral education.

PO2: The students are encouraged to climb the academic ladder by pursuing post graduate education in different domain.

PO3: The students are academically and technically equipped to steer the nation along the path of progress and peace.

PO4: The students are trained to be employable and entrepreneurial citizen of the nation.

PO5: The students are fortified intellectually, ethically and socially to face the challenges in life.

POST GRADUATE PROGRAMMES (PG):

At the end of Under Graduate Programme at St. Joseph's College of Arts & Science (Autonomous)

PO1: The students are groomed to acquire professional skills in their respective domains.

PO2: The students are encouraged to climb the academic ladder by pursuing Research Programme.

PO3: The inherent skills of the students are transformed into employability and entrepreneurial opportunities.

PO4: Graduates are trained to keep in pace with the rapidly changing technological frontiers.

PO5: The students evolve into intellectually, ethically and socially ideal citizens of the Nation.

THE SYLLABI

The syllabi of all Programmes include Programme Outcomes (POs), Programme Specific Outcomes (PSOs), and course objectives, Course Outcomes (COs), content of the courses, text and reference books for the respective courses.

MAPPING of PO with PSO

The mapping matrix in each syllabi clearly illustrates the alignment between **Program Outcomes (POs)** and **Program Specific Outcomes (PSOs)** is essential for understanding how each PSO contributes to the achievement of the overall POs. This alignment ensures that the institution's programs are well-structured, focused, and coherent. It also confirms that the curriculum is designed to effectively equip students with the necessary competencies for their careers or further academic pursuits in their field of study.

The Programme Outcomes are mapped with Programme Specific Outcomes on a 5-point scale which ranges between 1 and 5. The attainment is estimated as follows:

Scale	1	2	3	4	5
Score	Between 0 and 1	Between 1.1 and 2	Between 2.1 and 3	Between 3.1 and 4	Between 4.1 and 5
Attainment	Very Poor	Poor	Moderate	High	Very High

MAPPING OF CO WITH PSO

Mapping **Course Outcomes (COs)** with **Program Specific Outcomes (PSOs)** is a structured process that ensures students acquire the knowledge, skills, and attributes needed to succeed in their chosen fields. Each course's outcomes are aligned with the relevant PSOs, typically evaluated on a 5-point scale, as demonstrated in the table above. This process helps maintain consistency and relevance across the curriculum, ensuring that every course contributes meaningfully to the program's specialized goals.

MAPPING CO WITH PO

Effective mapping of **Course Outcomes (COs)** with **Program Outcomes (POs)** ensures that all courses collectively align with and contribute to the overall goals of the

academic program. Each course's outcomes are linked to the relevant POs, typically assessed on a 5-point scale, as shown in the table above. This process ensures a cohesive learning experience, fostering the development of competencies expected from program graduates.

Sample illustration of mapping of COs with PSOs and POs

Title of the Course: INTERNET TECHNOLOGIES (19GCM31B)

COURSE OUTCOMES	PROGRAMME OUTCOMES(PO)					PROGRAMME SPECIFIC OUTCOMES(PSO)					MEAN SCORE OF CO'S
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4	PSO5	
CO1	4	5	4	4	4	4	3	4	3	3	3.8
CO2	4	4	4	4	4	4	4	4	3	3	3.8
CO3	4	3	5	4	4	3	3	4	3	3	3.6
CO4	4	4	4	3	3	4	4	4	3	3	3.6
CO5	4	3	4	3	3	3	4	4	4	3	3.5
Mean Overall Score											3.7

The Mean Overall Score of the above course is 3.7 and the attainment of the course is HIGH.

ASSESSMENT

Assessment is an essential academic activity and a vital part of the teaching-learning process, aimed at promoting quality education and supporting student achievement. It is a continuous process that evaluates the effectiveness of the learning environment through evidence-based measures to determine whether students have achieved the intended learning outcomes. The college ensures that assessments are conducted consistently and systematically to maintain high standards of education.

Assessments are carried out in two ways: Formative (Internal) and Summative (End-Semester). These are implemented through

1. Continuous Internal Assessment (CIA) during the semester.
2. Semester Examination (SE) at the end of the semester.

Continuous Internal Assessment (CIA)

The CIA consists of two components – (i) two organized written tests, (ii) the second component.

i) Organized written tests

There will be two written tests (Mid-semester and End-semester) of 2 hours duration each carrying 50 marks. Organized written tests component carry 60% for UG & PG of the marks of the CIA. The syllabus for the I CIA test a minimum of 3 units and for the II CIA test a minimum of 2 units should be included. Any re-test is permitted by the Principal only for special reasons.

ii) The second component

20% and 40% of marks will be distributed among the various types of work provided to students by the teacher-in-charge of the course for UG and PG respectively. The type of work is left to the initiative of the teacher-in-charge of the course and approved by the Head of the Department concerned. It is expected that the staff member in charge of the course explains the modalities of the evaluation adopted for each subject (assignment, seminar, viva voce, mini project, group discussion, field visit, etc.). If only one type of work is done, there would be a minimum of two such exercises per semester for each paper.

iii) Attendance

For UG Students, 5 marks are given for attendance, and there is no attendance mark for the PG courses.

Semester Examinations (SE)

1. A student should register himself/herself to appear for the semester examinations by payment of the prescribed fee.
2. The semester examination will be in the form of a comprehensive examination covering the entire syllabus in each subject. It will be of 3 hours duration for part I, II, III & IV subjects.

ATTAINMENT OF OUTCOMES

The following procedure is used to evaluate students' performance:

1. **Input from End-Semester Examinations:** Student performance is assessed based on their marks in end-semester exams.
2. **Conversion to a 5-Point Scale:** The obtained marks are converted to a 5-point scale to determine whether the students have achieved the intended **Course Outcomes (COs)** set during the syllabus design.
3. **Mapping COs with PSOs and POs:** Each **Course Outcome (CO)** is systematically aligned with the relevant **Program Specific Outcomes (PSOs)** and **Program Outcomes (POs)**, as outlined in the syllabus of each course, ensuring clear outcome tracking and attainment.

This method provides a structured approach to ensure that students achieve both course-level and program-level competencies. The step-by-step mapping helps monitor progress, assess learning effectiveness, and maintain academic quality.

CALCULATION OF COURSE ATTAINMENT

Marks scored in the Semester Examinations would be taken into account for calculating the attainment of Course Outcomes.

The marks obtained by the students are entered question-wise which in turn will help to assess the attainment whether the related course outcome is attained or not.

Attainment of Course Outcome is calculated using the following formula,

$$\text{Step-1: } COA_i = (\text{mark}(Q_CO_j) / \text{No_of_Students_Attended}) \times 5 \text{) } / (\text{AMQ})$$

$$\text{Step-2: } F_COA_k = \text{AVERAGE}(COA_i)$$

Where,

AMQ - Allotted Mark for the Question

$COA_i = \frac{\text{Course Attainment}_i}{\text{Total_no_of_Questions}}$, $i = 1, 2, 3, 4, 5, 6, 7, 8, \dots$

$Q_CO_j = \text{Question related to Course Outcome}$, $j = 1, 2, 3, 4, 5 \dots n$

$F_COA_k = \text{Final Course Outcome Attainment}$, $k = 1, 2, 3, 4, 5$

If $(F_COA_k) > 2.5$ then that Course Outcome is attained

The attained percentages are analysed to evaluate the extent to which students have collectively achieved each Course Outcome (CO). This analysis helps identify areas of exceptional performance as well as those requiring improvement. Based on the findings, targeted action plans or corrective measures are formulated and implemented to meet the desired attainment levels.

ACTION ON THE ATTAINMENT


Assessment data, student feedback, and other relevant indicators are utilized to assess the effectiveness of these interventions. An Action Taken Report (ATR) is then prepared, documenting the identified issues, action plans, implementation strategies, outcomes, and recommendations for further improvement. This ensures a continuous improvement cycle, promoting academic excellence and better learning outcomes.


The attainment data will serve as a foundation for continuous improvement in course design, teaching methods, and assessment strategies. It will guide necessary adjustments to enhance student learning and improve Course Outcome (CO) attainment in future iterations of the course. Ongoing monitoring and timely adjustments are crucial to ensuring that the course remains effective and aligned with its intended learning outcomes.

The attainment data for all Course Outcomes (COs) will be aggregated, and a comprehensive report summarizing the overall attainment levels will be prepared and shared with key stakeholders, including students, faculty, and relevant administrative bodies. The implementation and monitoring of Outcome-Based Education (OBE) will be overseen by the following:

- Controller of Examinations
- Deans/Heads of Departments/Faculty
- Curriculum Development Cell
- IQAC Coordinator

This collaborative approach ensures that attainment levels are effectively monitored, reported, and used for continuous improvement in academic processes.


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