



Dr. V.S.KRISHNA GOVT. DEGREE COLLEGE
(An Autonomous Institution Affiliated to Andhra University)

District Resource Centre & Center for Research Studies
Maddilapalem, VISAKHAPATNAM 530 013, Andhra Pradesh



OBE Manual of the Institution



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Preface

Outcome Based Education (OBE) is a student-centric instructional model that emphasizes measuring student performance through clearly defined outcomes, encompassing knowledge, skills, and attitudes. The primary focus of OBE is on evaluating the outcomes of a program by specifying the knowledge, skills, and behaviors that graduates are expected to achieve upon completion. This performance-based approach offers a powerful and appealing method for reforming and managing education, concentrating on the end product—the type of graduates produced—rather than the educational process itself.

In OBE, educational outcomes are precisely specified, determining curriculum content, course organization, teaching methods, strategies, and assessment processes. The broader perspective of OBE aims to groom students into good citizens and strengthen democracy, a goal achievable only with the active cooperation and engagement of all teachers. OBE shifts the focus from teacher-centric learning to learner-centric learning, requiring both teachers and learners to be actively involved. Teachers must become active agents of teaching, engaging learners by encouraging questions, fostering discussions, and making the teaching-learning process dynamic and lively.

At Dr. V. S. Krishna Government Degree College (A), we are committed to producing graduates who possess a diverse combination of knowledge, skills, and attitudes, prepared to contribute meaningfully to society.



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Vision, Mission of the institution

Vision

"To impart quality education coupled with moral values for better employment and better citizenship".

Mission

1. To achieve academic excellence through coordinated and consistent effort.
2. To lay emphasis on providing students with knowledge rather than information.
3. To empower students with employable skills along with academics.
4. To make students more confident and self programmed .
5. To plan for all round personality development through co-curricular activities.
6. To provide a necessary and meaningful platform to our students to exhibit their natural and innate talent through our JKC activities
7. To produce students with commitment, integrity coupled with entrepreneurial skills required for sustainable livelihood
8. The above goals of our mission are aimed to translate our vision into a reality.
9. To align the curriculum of our institution in line with the goals of NEP-2020.

OBE Process and Framework

Outcome-Based Education (OBE) involves four levels of outcomes: Course Outcomes (CO), Program Outcomes (PO), Program Specific Outcomes (PSO), and Program Educational Objectives (PEO).

Program Educational Objectives (PEOs)

PEOs are specific goals aligned with the institution's mission and vision, addressing the interests of program stakeholders, particularly the requirements of professional bodies. PEOs describe the anticipated achievements of graduates in their careers and professional lives a few years after graduation.

Program Outcomes (POs)

POs are statements that describe what students are expected to know and be able to perform or attain by the time of graduation. These outcomes relate to the skills, knowledge, and behaviors acquired through the program. It is crucial for both lecturers and students to understand the relevance of POs in achieving the overarching PEOs of their program.

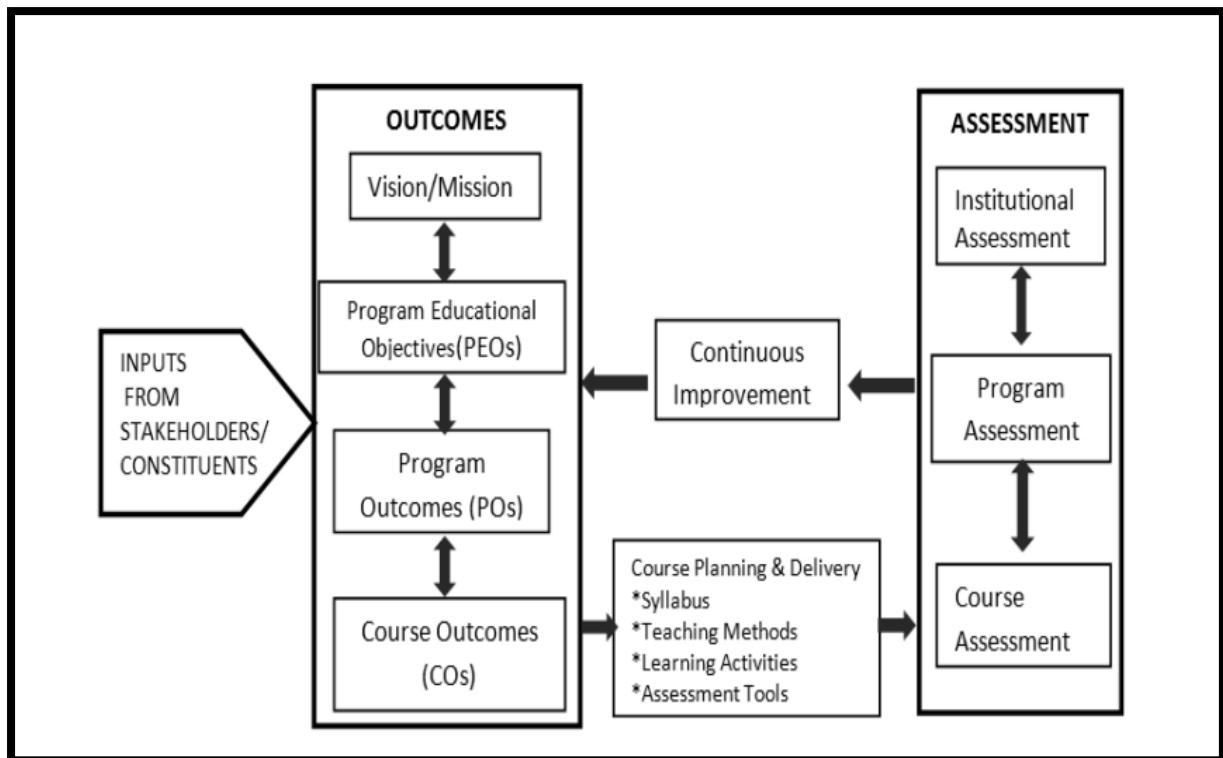
Program Specific Outcomes (PSOs)

PSOs are statements that define what graduates of a specific program should be able to do. They detail the unique abilities and knowledge that graduates are expected to possess upon completing the program.

Course Outcomes (COs)

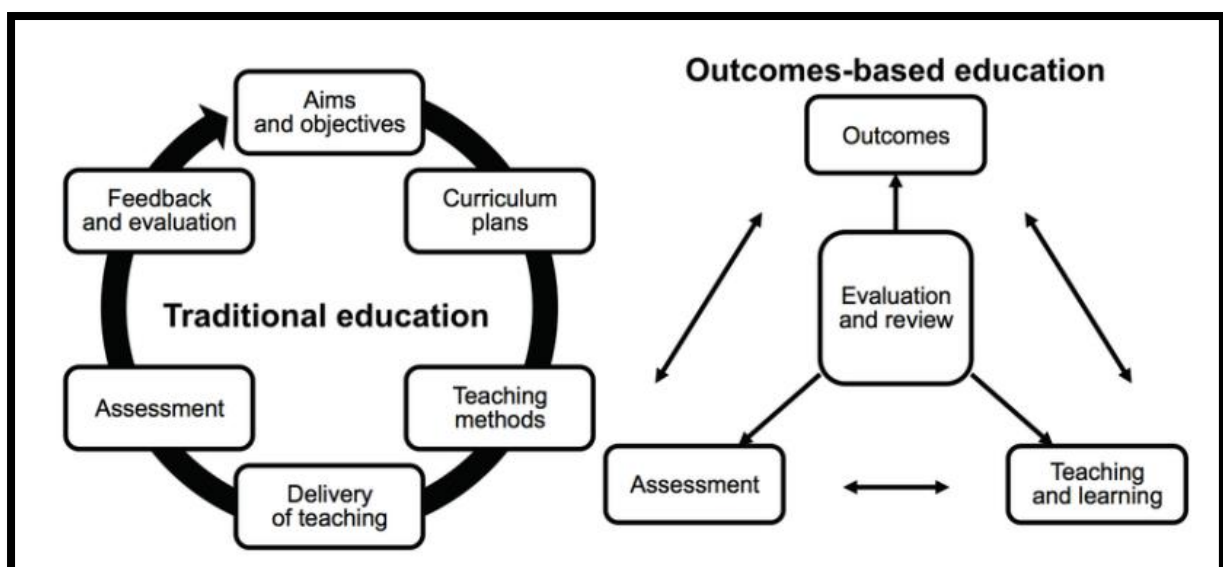
COs are statements that describe what students are expected to know and be able to perform or attain upon completing a course. Each CO contributes to the achievement of the POs through curriculum design, course delivery, and assessment tasks tailored to attain that CO.

OBE Frame Work



OBE Addresses the Following

- What should students be able to do? – OBE (Outcomes-Based Education)
- How to align outcomes with the syllabus? – OBC (Outcomes-Based Curriculum)
- How to help students achieve the outcomes? – OBLT (Outcomes-Based Learning and Teaching)
- How to measure students' success? – OBA (Outcomes-Based Assessment)



Outcome-Based Curriculum

Outcome-Based Education (OBE) approaches curriculum decision-making by focusing on the competencies students should demonstrate at the end of their educational program. The outcomes or competencies dictate the curriculum content and organization, teaching methods and strategies, courses offered, educational environment, and assessment strategies. All curriculum and teaching decisions are made based on how best to facilitate the desired final outcomes.

Steps for Planning and Implementing an Outcome-Based Curriculum:

Deciding on the Outcomes:

Clearly identify and specify the educational outcomes regarding content, context, and competence.

Demonstrating Outcomes:

Define the expected outcomes by setting benchmarks for each program level. Each benchmark represents a skill that must be demonstrated by the student. These benchmarks should address and specify the curriculum goals and establish ways to assess whether students have achieved these goals at each level of study.

Deciding on Contents and Teaching Strategies:

Implement OBE using either whole-class models, which aim to bring all learners in a classroom up to high levels of learning before proceeding further, or flexible models, which utilize flexible grouping, continuous progress, technological approaches, and instructional management.

Assessments in OBE

Outcome-Based Education (OBE) is driven by assessments that focus on well-defined learning outcomes, rather than factors such as what is taught, the time taken by students to achieve the outcomes, or the specific paths students take to reach their targets.

Outcome-Based Curriculum Levels:

➤ Institution Level:

Vision and Mission of the Institution and Department

Framework of Curriculum

➤ Program Level:

Program Educational Objectives (PEOs)

Program Outcomes (POs)

Program Specific Outcomes (PSOs)

➤ Course Level:

Course Design (Course Outcomes, COs)

Content Delivery (Theory, Practical, Projects, Assignments, Tutorials)

Outcome-Based Learning and Teaching

Outcome-Based Teaching and Learning (OBTL) is a student-centered educational approach where the intended learning outcomes of programs are explicitly defined for students to achieve. Teaching and learning activities are then carefully designed to facilitate students in achieving these outcomes. The success of OBTL is evidenced by assessment results and student learning experiences. Periodic reviews of these evidences lead to continuous improvement in program quality.

The Outcome-Based Teaching and Learning approach focuses on:

- Aligning desired graduate attributes, program intended learning outcomes, and module intended learning outcomes.
- Developing teaching and learning activities that enhance student learning experiences.
- Designing assessment processes to monitor students' learning progress and the achievement of desired outcomes and attributes.

Outcome-Based Assessment

Assessment in OBE involves processes carried out by the institution to identify, collect, and prepare data to evaluate the achievement of course outcomes and program outcomes. Attainment is the action of achieving a standard result towards accomplishing desired goals, primarily observed through test and examination results.

There are two types of Course Outcome (CO) assessment methods in Outcome-Based Assessment:

Direct Assessment:

These methods (mark-based assessments) display students' knowledge and skills through their performance in continuous internal assessment tests, semester examinations, and supporting activities such as seminars, assignments, case studies, group discussions, online quizzes, and mini projects. These methods provide a sampling of what students know and can do, offering strong evidence of student learning.

Indirect Assessment:

These methods (survey-based assessments) involve surveys, asking stakeholders to reflect on students' learning and extra-curricular activities participated (NSS/NCC/RRC/Clean and Green Activities). The institution assesses opinions or thoughts about graduates' knowledge or skills from various stakeholders, providing additional insights into student achievement.

Graduate Attributes (GAs)

Upon successful completion of the program, graduates will possess the following attributes:

Domain Knowledge: Apply knowledge effectively in the relevant areas of arts, science, and management.

Problem Analysis: Identify and analyze complex problems using knowledge acquired across various domains.

Design/Development of Solutions: Formulate solutions for complex problems with appropriate consideration for public health, safety, and cultural, societal, and environmental factors.

Society and Ethics: Apply contextual knowledge for societal welfare and commit to professional ethics.

Environment and Sustainability: Understand environmental factors and focus on sustainable development.

Project Management and Teamwork: Demonstrate knowledge and understanding of project management principles across various domains, effectively leading and working as a team.

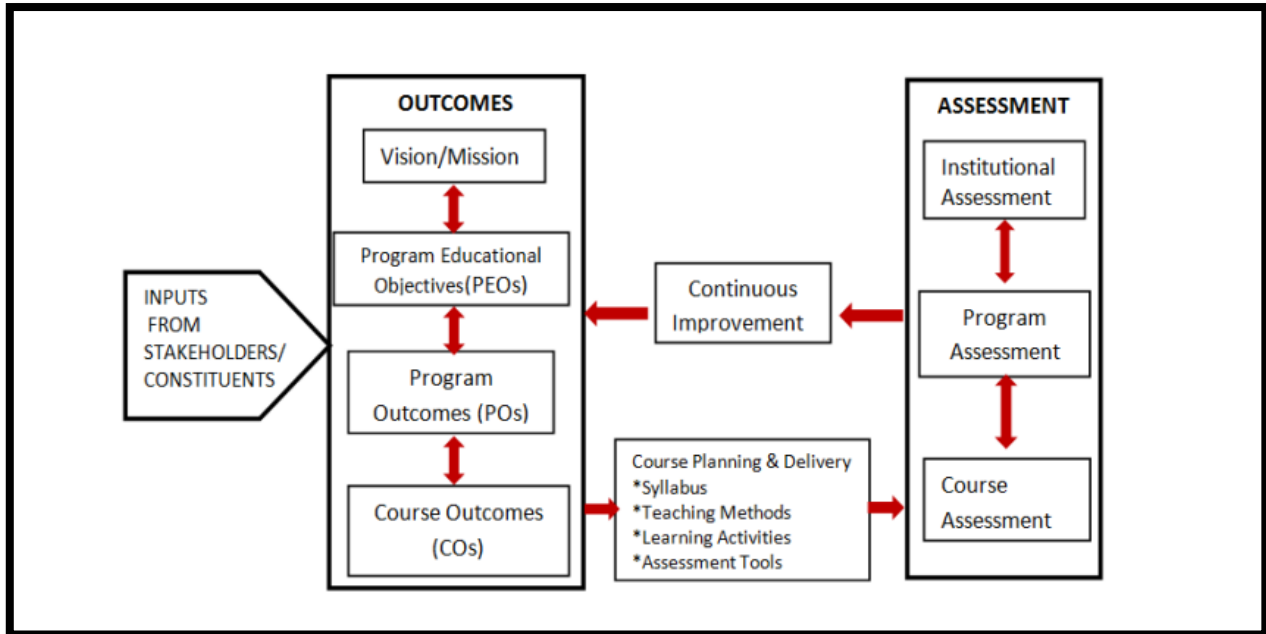
Communication: Exhibit effective communication skills for interaction with personnel and presentations in appropriate forums.

Innovative Thinking: Identify sources of business opportunities and develop entrepreneurial skills for entrepreneurship.

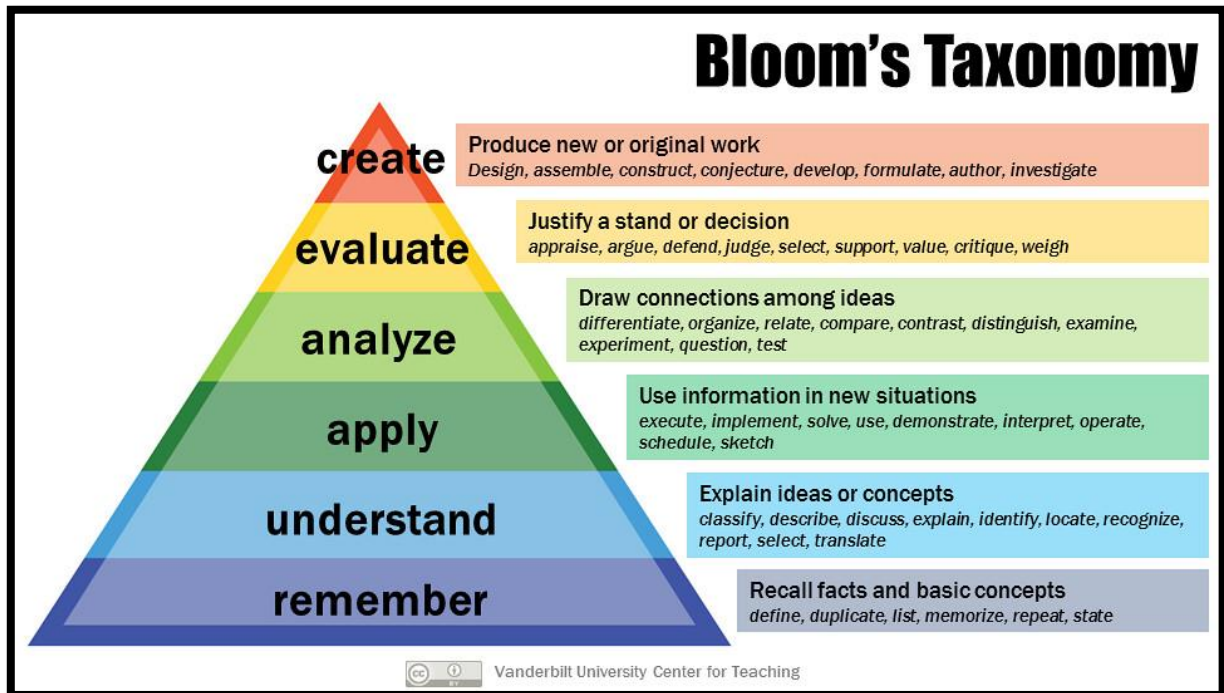
Lifelong Learning: Recognize the need for continuous learning and engage in lifelong learning with moral values.

PROCESS TO DEPICT PEOs, POs AND COs OF THE DEPARTMENT

The process steps followed for establishing the Vision, Mission, PEOs, POs and Cos for programmes are illustrated in the flow chart



Revised Bloom's Taxonomy



REVISED Bloom's Taxonomy Action Verbs

Definitions	I. Remembering	II. Understanding	III. Applying	IV. Analyzing	V. Evaluating	VI. Creating
Bloom's Definition	Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers.	Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas.	Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.	Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations.	Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria.	Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.
Verbs	<ul style="list-style-type: none"> • Choose • Define • Find • How • Label • List • Match • Name • Omit • Recall • Relate • Select • Show • Spell • Tell • What • When • Where • Which • Who • Why 	<ul style="list-style-type: none"> • Classify • Compare • Contrast • Demonstrate • Explain • Extend • Illustrate • Infer • Interpret • Outline • Relate • Rephrase • Show • Summarize • Translate 	<ul style="list-style-type: none"> • Apply • Build • Choose • Construct • Develop • Experiment with • Identify • Interview • Make use of • Model • Organize • Plan • Select • Solve • Utilize 	<ul style="list-style-type: none"> • Analyze • Assume • Categorize • Classify • Compare • Conclusion • Contrast • Discover • Dissect • Distinguish • Divide • Examine • Function • Inference • Inspect • List • Motive • Relationships • Simplify • Survey • Take part in • Test for • Theme 	<ul style="list-style-type: none"> • Agree • Appraise • Assess • Award • Choose • Compare • Conclude • Criteria • Criticize • Decide • Deduct • Defend • Determine • Disprove • Estimate • Evaluate • Explain • Importance • Influence • Interpret • Judge • Justify • Mark • Measure • Opinion • Perceive • Prioritize • Prove • Rate • Recommend • Rule on • Select • Support • Value 	<ul style="list-style-type: none"> • Adapt • Build • Change • Choose • Combine • Compile • Compose • Construct • Create • Delete • Design • Develop • Discuss • Elaborate • Estimate • Formulate • Happen • Imagine • Improve • Invent • Make up • Maximize • Minimize • Modify • Original • Originate • Plan • Predict • Propose • Solution • Solve • Suppose • Test • Theory

CO – PO ATTAINMENT METHODOLOGY

➤ Step 1

Calculation of Course Outcome Weighted Average (COWA)

The performance of the students assessed by two methods

- (a) Direct Assessment: The weightage for internal exams is 30% and for semester end exams is 60%
- (b) Indirect assessment: 5% weightage for exit survey and 5% for extracurricular activities

The performance of the student is categorised in four levels

S,No	Percentage obtained by the student in DA and IDA	Level weightage
1	Less than 35%	0
2	Between 35% and 50%	1
3	Between 51% and 70%	2
4	Above 70%	3

The average level of all students for a particular course is found. It is called as course outcome weighted average (COWA).

$$\text{COWA} = \frac{\text{some of the level weightage of all students of a course}}{\text{total number of students}}$$

➤ Step 2:

Calculation of Course outcome level index (COLLI):

To Map the course outcomes (COs) of a course with Blooms levels (1 to 6) by using action verbs used in CO' s. A course outcome may be mapped to multiple Blooms levels; hence we need to calculate the average Blooms level weightage (ABLW).

$$\text{COLLI} = \frac{\text{Sum of the weightages of blooms levels mapped}}{\text{number of levels mapped}}$$

➤ Step 3:

CO-PO mapping and CO-PSO mapping

Map each course outcome with POs and PSOs in levels 0,1,2,3. A CO may be mapped to multiple POs or PSOs with different levels 1,2,3. The weighted average of each PO is to be calculated.

➤ Step 4:

Calculation of CO attainment:

The formula for Course Outcome Attainment (CO Attainment) can be calculated by using below formula

$$\mathbf{CO\ attainment} = \mathbf{COWA} + \left\{ (\mathbf{3} - \mathbf{COWA}) \times \left(\mathbf{1} - \frac{\mathbf{COLLI}}{\mathbf{3.5}} \right) \right\}$$

(Blooms Level Weighted Average value = 3.5)

➤ Step 5:

Calculation of PO attainment:

The formula for Programme Outcome Attainment (PO Attainment) can be calculated by using below formula

$$\mathbf{PO\ Attainment} = \frac{\Sigma(\mathbf{CO\ attainment})(\mathbf{PO\ level\ mapped\ with\ CO})}{\mathbf{Sum\ of\ the\ PO\ levels\ mapped\ with\ CO}}$$

PSO attainment:

The formula for Programme Specific Outcome Attainment (PSO Attainment) can be calculated by using below formula

$$\mathbf{PSO\ Attainment} = \frac{\Sigma(\mathbf{CO\ attainment})(\mathbf{PSO\ level\ mapped\ with\ CO})}{\mathbf{Sum\ of\ the\ PSO\ levels\ mapped\ with\ CO}}$$