DAYANANDA SAGAR ACADEMY OF TECHNOLOGY & MANAGEMENT

PHASE-1

6 DAYS FACULTY IMMERSION PROGRAM REPORT

on

OBE OUTCOME-BASED EDUCATION

for

Faculties handling 7th Semester

17th October 2022 to 22nd October 2022

By

Dr. M RAVISHANKAR

PRINCIPAL

DAYANANDA SAGAR ACADEMY OF TECHNOLOGY & MANAGEMENT

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List of Faculties attended FIP on Outcome Based Education

Mechanical Engineering		
Sl. No.	**Faculty Name**	**Designation**
1	Dr. K. Mahesh Dutt	Professor
2	Dr. M.N. Gururaja	Associate Professor
3	Dr. Rajanish M	Associate Professor
4	Dr. Mallikarjun Biradar	Associate Professor
5	Dr. Ashok Kumar M.S	Assistant Professor
6	Dr. Vijaya G	Assistant Professor
7	Dr. Veeresh Murthy	Assistant Professor
8	Prof. Santhosh D. N	Assistant Professor
9	Prof. Vinay.D.L	Assistant Professor
Electrical & Electronics Engineering		
Sl. No.	**Faculty Name**	**Designation**
10	Prof. Govinadappa R	Associate Professor
11	Prof. Rahmi P.	Assistant Professor
12	Prof. Kiran R	Assistant Professor
13	Prof. Ramya S.Rajan	Assistant Professor
Civil Engineering		
14	Dr. Sahana. R	Assistant Professor
15	Prof. Deepthi. B P	Assistant Professor
16	Prof. Supraja.I	Assistant Professor
17	Prof. Sridhara.S	Assistant Professor
18	Prof. Vinaya Kumar	Assistant Professor
19	Prof. Shreyas B V	Assistant Professor
Computer Science & Engineering		
20	Dr. Saravan Kumar	Associate Professor
21	Dr. Shashikala	Associate Professor
22	Prof. Chethana .V	Assistant Professor
23	Prof. Manasa Sandeep	Assistant Professor
24	Prof. Chaithra P C	Assistant Professor
25	Prof. Nethra .HL	Assistant Professor

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26	Prof. Shilpa M	Assistant Professor
27	Prof. Vijakalakshmi	Assistant Professor
Electronics & Communication Engineering		
Sl. No.	**Faculty Name**	**Designation**
28	Dr. Mallikarjun P Y	Professor
29	Dr.Siddalingappagouda Biradar	Associate Professor
30	Dr. Vasudeva G	Assistant Professor
31	Dr. Ravi Gatti	Assistant Professor
Information Science & Engineering		
32	Dr. Thirukrishna J.T	Associate Professor
33	Dr. Rama Abhirami	Associate Professor
34	Mrs. Nikshepa T	Assistant Professor
35	Mrs. Tejashree V	Assistant Professor
Computer Science & Design		
36	Dr. Priya Nandial	Assistant Professor
Architecture		
Sl. No.	**Faculty Name**	**Designation**
37	Mamata G	Associate Professor
38	Anushruti	Assistant Professor
39	Pooja	Assistant Professor
40	Shehzadi Farah Khan	Assistant Professor
41	Akshata N S	Assistant Professor
42	M S R Srinivas	Assistant Professor
43	Likhitha Devineni	Associate Professor
44	Monica Sharma	Assistant Professor
45	Piyush Pant	Assistant Professor

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DAY-1

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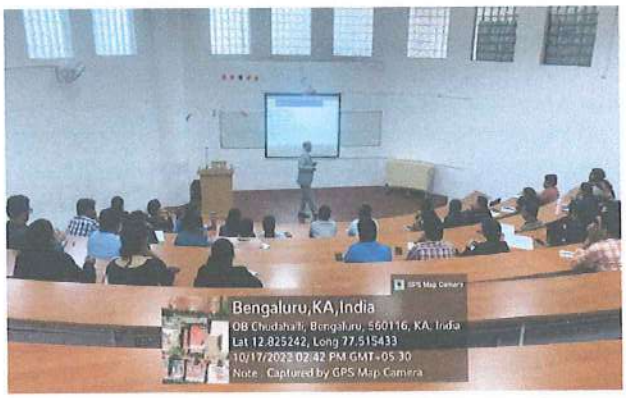
Event Name	FIP on Outcome Based Education -Day-1
Theme	Outcome Based Education (OBE)
Date& Time	17th Oct 2022 Time: 2.30 PM to 5.00 PM
Venue	Architecture Block Seminar Hall
Faculty	7th Semester Faculty Members - DSATM



The session began with a small discussion on the current teaching learning process and its drawbacks. The importance of Outcome based Education and how it can be achieved at different stages was discussed. The discussion helped faculties to understand the outcomes at different levels. Session continued towards Graduate Attributes which are the qualities, skills and understandings a university agrees its students should develop their skills during their time with the institution. A detailed discussion on Course Outcomes and how to frame them at different stages using the action word and the learning statement was clearly explained. Bloom's taxonomy and its verbs were also discussed. Participants were made to understand the importance of action verbs in framing the CO's. The verbs to be included and those to be not mentioned are also discussed. It helped participants to frame the CO's of their respective courses. A quiz was conducted based on the contents discussed and feedback was taken at the end of the session.

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Overall presentation highlighted on the features of:

OBE Principles

Outcome Based Teaching – Learning – Measures to Achieve the Outcome.

Outcome Based Curriculum – Ability of the student.

Outcome Based Assessment- Measure what student has achieved.

Key Issues of OBE

Skill Set, Guidance, Evaluation and Feedback.

Approach in implementing OBE

Modify existing curricular (rather than start from scratch)

Revise Course Content Structure

Introduce Innovative Delivery Methods

Introduce Innovative Assessment Evaluation Tools

Introduce System of Data Evidence Collection

Continuous Quality Improvement

Domains of Learning Outcomes

COGNITIVE - Thinking, Knowledge.

PSYCHOMOTOR – Works to be Carried out, Skills.

AFFECTIVE - Feeling, Attitude.

Revised Blooms Taxonomy Levels.

Assessment Tools

Direct Assessment – Internal Assessment, Semester End Examination

Indirect Assessment – Course Survey, Feedback

Program Outcomes: Based on

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- Knowledge
- Skill
- Attitude

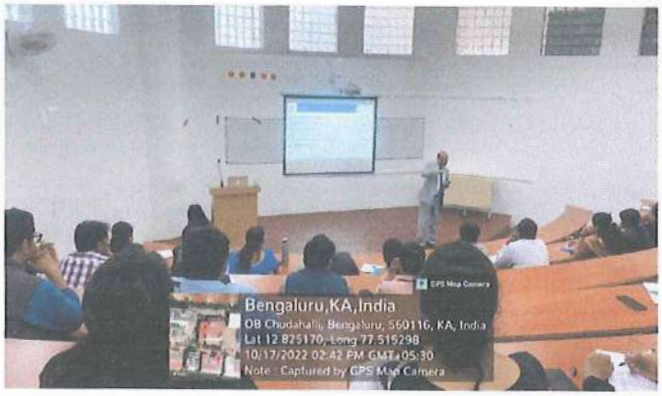
Program Outcomes: Assessment Tools

- ✓ Project Work
- ✓ Assignment
- ✓ Participative Activities / Practical Activities

Summary of Day 1

- Presentation started with importance of Industry 4.0, Education 4.0 and OUTCOME BASED EDUCATION (OBE).
- Enlightened the information about the process that involves the restructuring of curriculum, assessment and reporting practices in education to reflect the achievement of higher order learning and mastery rather than the accumulation of course credits.
- OBE is an educational process focussed at achieving certain specified outcomes in terms of individual student learning.
- The main aspect of OBE is to improve the qualities that should be developed/acquired by the students at the end of their study.
- Outcome-Based Education (OBE) model is being adopted in Engineering colleges now-a days as per AICTE guidelines. It is considered as a giant leap forward to improve technical education in India and help Engineers compete with their global counterparts.
- Outcome based education (OBE) is student-centred instruction model that focuses on measuring student performance through outcomes. Outcomes include knowledge, skills and attitudes. Its focus remains on evaluation of outcomes of the program by stating the knowledge, skill and behaviour a graduate is expected to attain upon completion of a program and after 4 – 5 years of graduation.
- In the OBE model, the required knowledge and skill sets for a particular engineering degree is predetermined and the students are evaluated for all the required parameters (Outcomes) during the course of the program.

- The brief comparison made between traditional and outcome-based education. Deficiencies in Traditional education, Features of OBE and Expectations of students under OBE – the outcome.
- Delivery methods become more innovative/flexible, assessment and evaluations should be evidenced in OBE.



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DAY-2

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Event Name	FIP on Outcome Based Education -Day-2
Theme	Outcome Based Education (OBE)
Date& Time	18th Oct2022 Time: 2.30 PM to 5.00 PM
Venue	Architecture Block Seminar Hall
Faculty	7th Semester Faculty Members - DSATM

Program Educational Objectives

These are broad statements that describe the expected achievements of graduates within the first fewyears of graduation.

PEOs also tell us "What kind of career our graduates are prepared for and what kind of careeraccomplishments they will be able to achieve by undergoing this particular program"

PEOs also give an analysis for filling a gap between academia & Industry.

Revised Blooms Taxonomy

There are six levels of cognitive learning according to the revised version of Bloom's Taxonomy.Each level is conceptually different. The six levels are

1. Remembering,
2. Understanding,
3. Applying,

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4. Analyzing,
5. Evaluating, and
6. Creating.

These levels can be helpful in developing learning outcomes because certain verbs are particularlyappropriate at each level and not appropriate at other levels.

The first three levels of RBT that is Remembering, Understanding, Applying are called LOTS (LowerOrder Thinking Skills) and the next three levels of RBT i.e Analyzing, Evaluating, and Creating are classified as HOTS(Higher Order Thinking Skills).

Program Outcomes

Program Outcomes are narrower statements that describe what students are expected to know and beable to do upon graduation.

There are 12 graduate attributes defined under program outcomes. They are

PO1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2. Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, naturalsciences, and engineering sciences.

PO3. Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate considerationfor the public health and safety, and the cultural, societal, and environmental considerations.

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PO4. Conduct investigations of complex problems: Use research-based knowledge and researchmethods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5. Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with anunderstanding of the limitations.

PO6. The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7. Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need forsustainable development.

PO8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities andnorms of the engineering practice.

PO9. Individual and team work: Function effectively as an individual, and as a member or leader indiverse teams, and in multidisciplinary settings.

PO10. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clearinstructions.

PO11. Project management and finance: Demonstrate knowledge and understanding of the

engineering and management principles and apply these to one's own work, as a member and leaderin a team, to manage projects and in multidisciplinary environments.

PO12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

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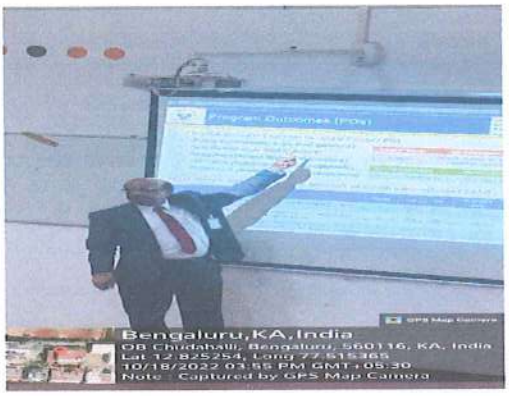

Bloom's Taxonomy

It is a set of three hierarchical models used to classify educational learning objectives into levels ofcomplexity and specificity. The models organize learning objectives into three different domains:

The three domains of boom taxonomy is

1. The cognitive domain (Knowledge-based)-PO1 to PO4
2. The Affective domain (Emotion-based)-PO6, PO7, PO8, PO12
3. The psychomotor domain (Action based)-PO5,PO9-PO11 PO1-PO5 are disciplinary outcomes
   PO6-PO12 are professional outcomes or Generic or transferrable outcomes.

List of Direct Assessment Tools for POs

By using Bloom's taxonomy framework in planning and designing of assessment of student learning,following points need to be considered:

The first three learning levels; remembering, understanding and applying and to some extent fourth level analysing are assessed in the Continuous Internal Evaluation (CIE) and Semester EndExaminations (SEE), where students are given a limited amount of time.

And abilities; analysis, evaluation and creation can be assessed in extended course works or in a variety of student works like course projects, mini/ minor projects, Internship experience and finalyear projects.

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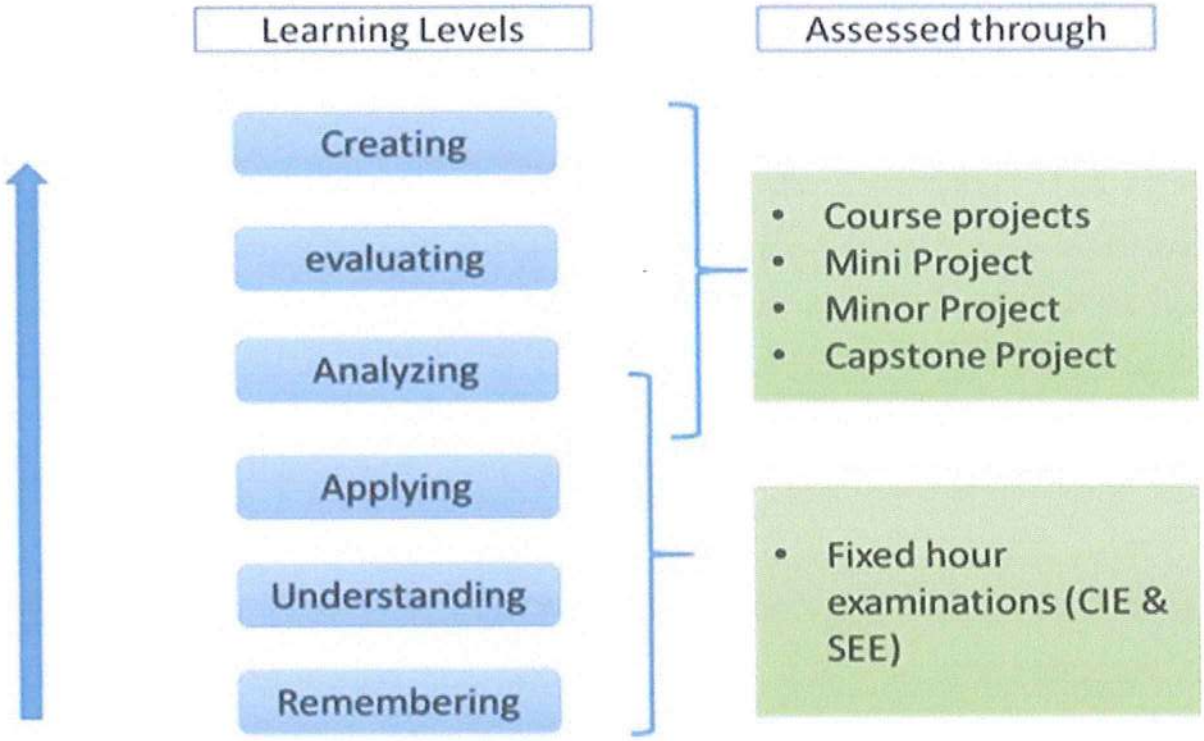
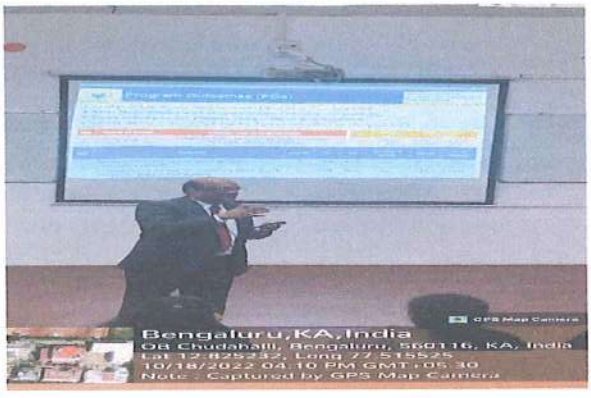


Program outcomes are measured each academic year for the graduating batch.POs are realized by curriculum, teaching/learning and assessment (performance of students) – co-curricular and extra-curricular components may also be included



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DAY-3

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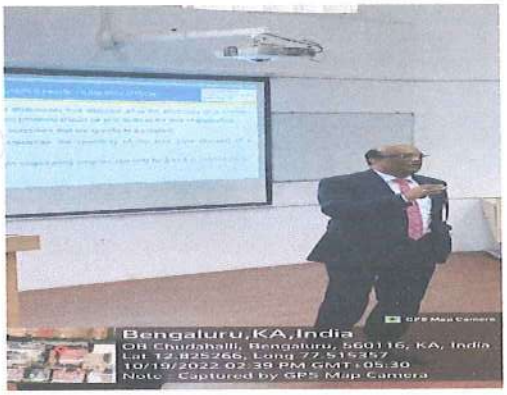
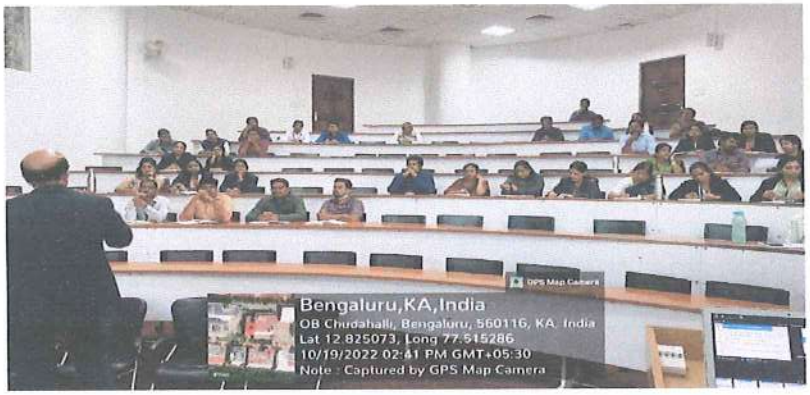
Event Name	FIP on Outcome Based Education -Day-3
Theme	Outcome Based Education (OBE)
Date& Time	19th Oct2022 Time: 2.30 PM to 5.00 PM
Venue	Architecture Block Seminar Hall
Faculty	7th Semester Faculty Members - DSATM





An Overview was given on Course and the following topics were discussed:

- PSO
- Course
- Course Objectives
- Course Outcomes
- Formulas for writing Good Course Outcomes
- Common Mistakes in forming Course Outcomes

The session ended with discussing FAQs related to forming Course Outcomes

PSO

Program specific outcomes are statements that describe what the graduates of a specific course or program should be able to do. PSO's should be formed based on Core Courses. Good practice is to have the PSO's in the range of 2 to 4.

Course

Courses are the building blocks of a program. All subjects, Laboratories, Seminar, Project Work, Internship are considered as Courses.

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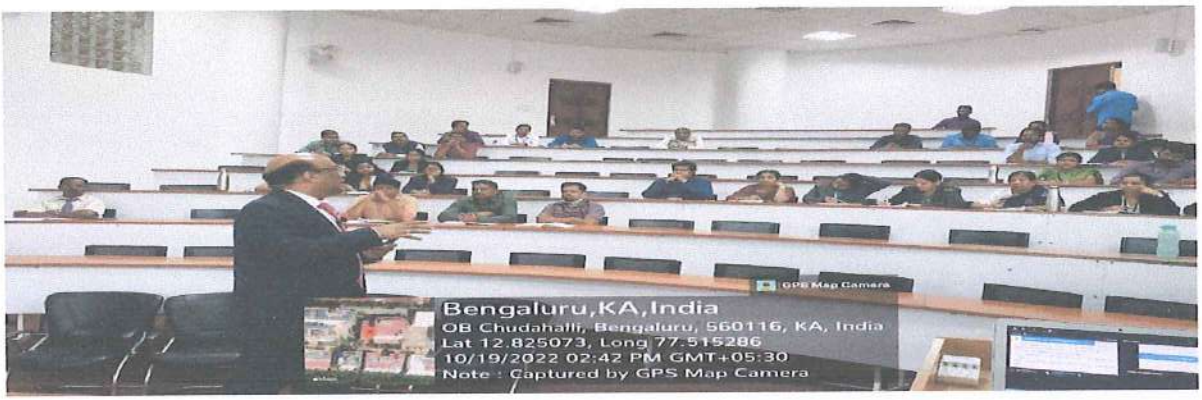
Course Objectives

A course objective describes what a faculty member will cover in a course. They are generally less broad that goals and broader than student learning outcomes. Objectives might not necessarily turn to a product whereas outcome is measurable.

Course Outcomes

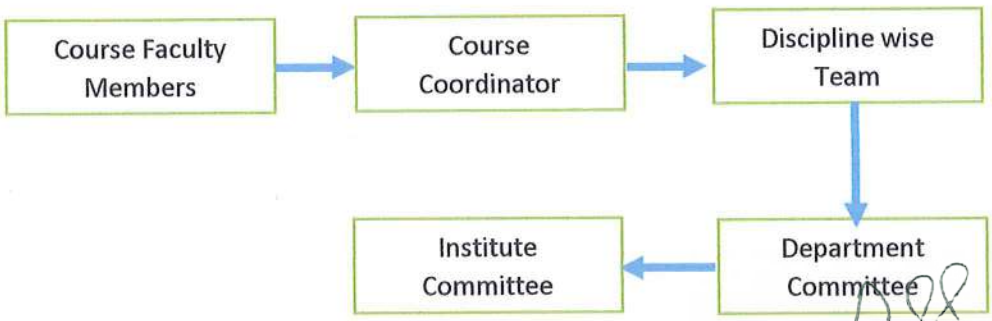
Course Outcomes are also called as Course Learning Outcomes, Student Learning Outcomes. They articulate to students, faculty, and other stakeholders what students will achieve in each course and how their learning will be measured. COs are measured at the end of the semester.



Formulas for writing Good Course Outcomes

Always start the course outcomes with the sentence "By the end of the course, students will be able to" and then list the COs. COs can be formed using action verbs from RBT pyramid. Course outcomes can be formed to target the following skills: Apply, Analyze, Evaluate, Communication, Design, Usage of Modern Tools.

Formation of COs



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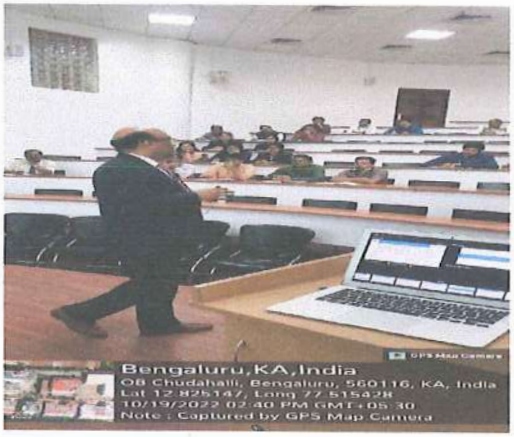

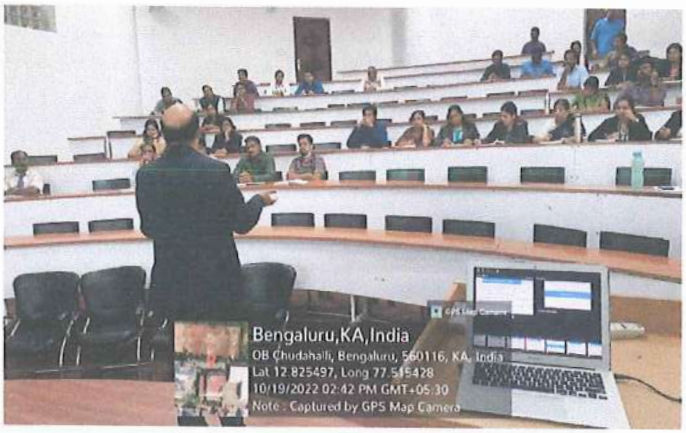

Common Mistakes in forming Course Outcomes

- COs Should not be a Faculty's Wishlist.
- COs should be specific, measurable and achievable.
- Number of COs to be formed depends on L: T:P credit allotted to that Course.
- If a Course has 5 COs, first three COs should be measured based on Lower Order Thinking Skills using Assessment tools CIE, Assignment.
- Last two COs should be measured based on Higher Order Thinking Skills using Alternate Assessment tools like Seminar, Project and any demonstration skills.

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DAY- 4

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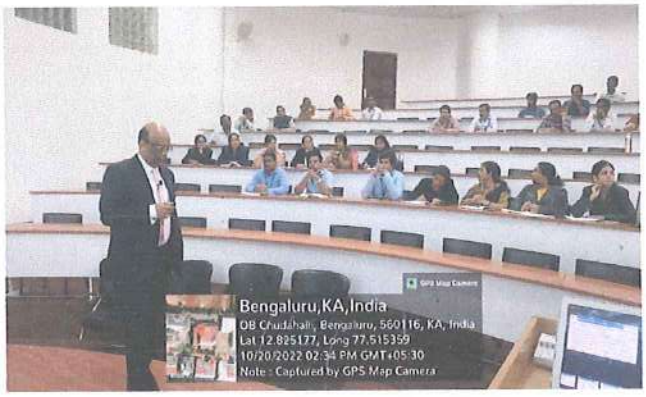
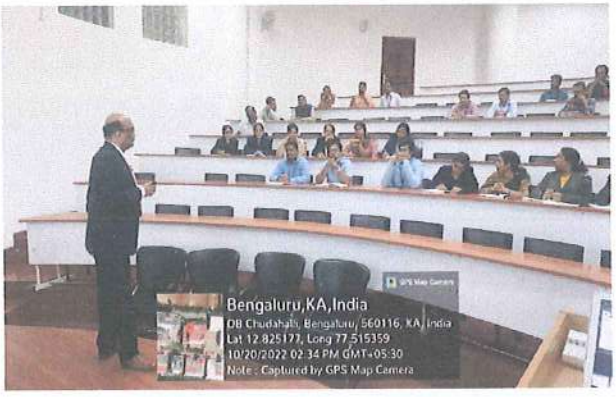
Event Name	FIP on Outcome Based Education - Day-4
Theme	Outcome Based Education (OBE)
Date& Time	20th Oct2022 Time: 2.30 PM to 5.00 PM
Venue	Architecture Block Seminar Hall
Faculty	7th Semester Faculty Members - DSATM

CO-PO Mapping

Course Outcomes (COs): Statements indicating what a student can do after the successful completion of a course. Every Course leads to some Course Outcomes. The CO statements are defined by considering the course content covered in each module of a course. For every course there may be 4 to 6 COs. The keywords used to define COs are based on Bloom's Taxonomy.





Course Outcomes need to be framed based on following process,

1.Syllabus

2.Teaching Learning Process (TLP)

3.Assessment Tools

Direct assessment Tools-CIE and SEE.

Indirect Assessment Tools-Survey, Assignment, Quiz, Mini-Projects, Seminar Etc.

Course Outcomes will be provided by the university and can be modified based on assessment methods.

- For Course having LTP (3:0:1) and 3:1:0 can have maximum of COs in the range of 4 to 6.

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- Each COs Contain two parts,
  1. Action Verb
  2. Learning Statements

  For Example, Apply the laws of Physics-Part 1.

  To compute different type of responses in the given material-Part 2.

- In general, If we have 5 COs, 3 COs assessed based on theory exams and 2 COs based on Assignments, Quiz and Case Studies Etc.
- For the Laboratories the following split-ups can be used for framing the course outcomes, i.e.

Sl No.	Methodology	Marks	Course Outcomes
1	Procedure	5	CO1
2	Output	5	CO2
3	Experiment	10	CO3
4	Lab Reports	5	CO4
	Total	25	

- Depending on the action verb used in each COs will enable use to map for POs,

  For Example,

Sl. N	Course Outcomes	Action Verbs	Program Outcome	Blooms Leve
1	CO1	Remember/Understand	PO1	L1/L2
2	CO2	Apply	PO2	L3
3	CO3	Analyse	PO5, PO9, PO12	L4
4	CO4	Design, Team Work	PO10	L6
5	CO5	Investigation, individual w Communication	PO3, PO4	L5

SAMPLE CO STATEMENTS:

Course: Computer Networks , Course Code: 18EC71

Table 1.1: Sample CO statements Upon successful completion of this course, students should be able to learn

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COs	Course Outcomes	Levels	Skills
71.1	Ability to understand and remember concepts of networking thoroughly	L1/L2	Understand/Remember
71.2	Ability to apply the concepts of protoc and services of different layers.	L3	Apply
71.3	Ability to analyse the basic netw configurations and standards associa with each network.	L4	Analyse
71.4	Ability to design the simple network measurement of its parameters.	L6	Design
71.5	Ability to investigate and demonstrate real time network.	L5	Investigate, Communicat

II. Program Outcomes (POs): Describe what students are expected to know and would be able to do by the time of graduation. These relate to the skills, knowledge, and Attitude that students acquire as they progress through the program.

Following are the POs,

1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems. (PO1)
2. Problem Analysis: Identify, formulate, research literature, and Analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences. (PO2)
3. Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations. (PO3)
4. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions. (PO4)
5. Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex

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engineering activities with an understanding of the limitations. (PO5)

6. The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice. (PO6)
7. Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development. (PO7)
8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice. (PO8)
9. Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings. (PO9)
10. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions. (PO10)
11. Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments. (PO11)
12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. (PO12)

III. CO-PO Mapping

All the courses together must cover all the POs (and PSOs). For a course we map the COs to POs through the CO-PO matrix and to PSOs through the CO-PSO matrix as shown below. The various correlation levels are:

"1" – Slight (Low) Correlation

"2" – Moderate (Medium) Correlation

"3" – Substantial (High) Correlation "-" indicates there is no correlation.

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Levels of Outcomes There are four levels of outcome such as Course Outcome (CO), Program Outcome (PO), Program Specific Outcome (PSO) and Program Educational Objective (PEO). Course Outcomes are the statements that declare what students should be able to do at the end of a course. POs are defined by Accreditation Agencies of the country (NBA in India), which are the statements about the knowledge, skills and attitudes, graduate attributes of a formal engineering program should have. Graduates Attributes (GAs) are the components indicative of the graduate's potential to acquire competence to practice at the appropriate level. GAs form a set of individually assessable outcomes of the program. The NBA laid down the graduate attributes relating to program outcomes and is to be derived by program. The Program outcomes reflect the ability of graduates to demonstrate knowledge in fundamentals of Basic Sciences, Humanities and Social Sciences, Engineering Sciences and apply these principles in understanding and practically apply the knowledge in professional core subjects, electives and projects which enables the graduates to be competent at the time of graduation. The graduates must adhere to professional and ethical responsibilities in the pursuit of their careers and also for the benefit of the society. These outcomes also enable the graduate to pursue higher studies and engage in R&D for a successful professional career.

The proper definition and the attainment of POs contribute to the attainment of Program Educational Objectives which will help the graduate to perform his/ her duties, professional responsibilities, design, development, production and testing of novel products, ability to deal with finances and project management during his/her early professional career of 3 to 4 years.

- COs with POs and PSOs mapping should be done for Core Courses. Open and Professional Electives cannot be considered for CO-PO Mapping.
- CO-PO mapping need to be done based on assessment tool used for the particular course, For example for the given courses assessment methods following CO-PO mapping can be done.

COs	T1(20M)	T2(20M)	T3 (20M)	Total	Assignment(20M)	Group Discussion(20M)
CO1	6	4	4	16	---	---
CO2	6	8	8	22	---	---
CO3	6	8	8	22	---	---

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CO4	---	---	---	---	20	---
CO5	---	---	---	---	---	20
Total	20	20	20	60	20	20

- For this assessment method we use the following criteria for deciding the CO-PO mapping levels

1. If ≥30%, total marks question towards graduate attributes for particular CO then we assign as Level 3.
2. If ≥10% and ≤ 30% total marks question towards graduate attributes for particular CO then we assign as Level 2.
3. If ≤10% total marks question towards graduate attributes for particular CO then we assign as Level 1.

Note: the above conditions can be changed depending on the course and assessment methods.

Based on the Assessment Methods and Conditions used we calculate the CO attainment for each COs, CO attainment 2= 22*100/60%=37%

Since the CO 2 attainment holds good for the condition 1, therefore we map CO 2 with PO2 with Level 3.

CO attainment 3= 22*100/60%=37%

Since the CO 3 attainment holds good for the condition 1, therefore we map CO 5 with PO2 with Level 3.

CO attainment 4= 12*100/20%=60%

Individual 4*100/20%=20%

Communication 4*100/20=20%

Since the CO 4 attainment holds good for the condition 1-Design, therefore we map CO 4 with PO4 and individual and communication we map with PO10 Level 2 respectively.

CO5 attainment is calculated as same as CO4.

Sample Mapping of CO-PO for the above scenario

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CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3											
CO2		3										
CO3			3							2		
CO4				3						2		
CO5					3					2		
Avg	3	3	3	3	3					2		

Similarly, the COs with PSOs mapping is created by refereeing the above procedure.

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DAY- 5

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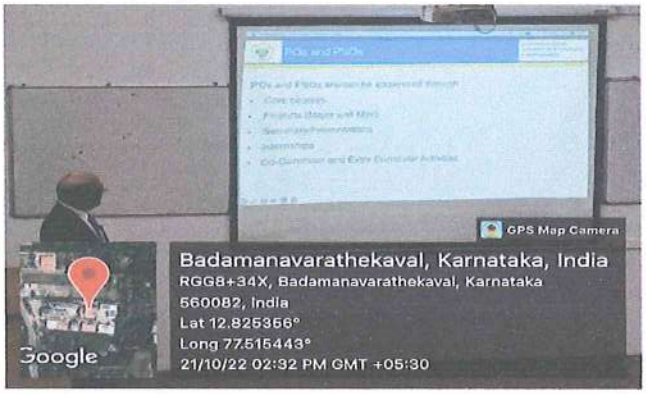
Event Name	FIP on Outcome Based Education -Day-5
Theme	Outcome Based Education (OBE)
Date& Time	21st Oct2022 Time: 2.30 PM to 5.00 PM
Venue	Architecture Block Seminar Hall
Faculty	7th Semester Faculty Members - DSATM



Objectives

- To enhance the knowledge about the latest Outcome-Based Education (OBE) and its implications in teaching, assessment, evaluation and competencies of the faculty members in the teaching-learning system of the university.
- To create CO-PO mapping table
- To prepare assessment plan to measure CO and PO attainment
- To close assessment loop of outcomes
- To understand the needs of CO-PO mapping for each course on ascale of 3, 2, 1&0.
- To understand the calculation of attainment of course outcomes at the end of the course and importance of Faculty Course Assessment Report (FCAR).

About the Topic

- Once COs are written using higher order thinking skills and graduate attributes, syllabus is used to frame questions according to Revised Bloom's Taxonomy levels.
- CO's are mapped to POs

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- Questions are mapped to CO's and total marks for each COs calculated of all CIE tests
- Total marks considering all CO's is calculated for both LOTS and HOTS course outcomes
- A target is set in % to attain CO's(30%,10-20,10) and graded as High-3,Medium-2 and Low-3 to map COs with POs
- Once direct attainments are calculated its compared with set targets and a inference is drawn and noted in FCAR.
- Indirect attainment is done through course end survey
- In course end survey on COs shall be graded 3,2 and 1 as excellent good and poor and COs to be written with a prefix most of them applied,. Few of them applied and unable to applyto give a clarity to select option.
- Once survey done it is measured and a weightage given to calculate overall attainment of COs
- Once CO attainment done ,it is used to calculate attainment of POs using CO-PO mapping
- CO attainments if not attained some actions will be initiated to fulfil the gap.
- Program end survey is conducted for all 12 POs with a clear brief of each graduate attributes to grade among three levels.
- PO attainments if not attained some actions will be initiated to fulfil the gap.

Measurable Outcomes

- Awareness given on the importance of outcome based education and its application.
- It helped immensely to ready course file ,Course Development plan and FCAR
- It stitched the academic delivery process through OBE practices from start to end of a course and program
- We got to know why we have to practice OBE and its advantages, confidence on assessment techniques to do a meaningful attempt to evaluate a course and a program.
- The concept on CO-PO mapping and its justification statement based on assessment plan for CIE.

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- Inputs on how to calculate attainment of course outcomes for all the courses including both direct and indirect assessment tool.

Key-points of day-5

- CO-PO Mapping for a course (Theory and Laboratory)
- Assessment plan for CIE.(Sample)

CO	T1 20M	T2 20M	T3 20M	Total A=T1+T2+T3 60M	Assignment 20M	Group Discussion / Seminar 20M	Total B=Assignment + GD 40M	Grand Total= A+B 100M
1								
2								
3								
4								
5								

- Attainment of course outcomes at the end of course based on direct and indirect assessment tools.
- FCAR (Faculty Course Assessment Report) – Closure of quality loop.
- FAQ on CO-PO Attainment
- Assessment tools : Direct(CIE & SEE) and Indirect (CES)
- Threshold / Target values
- Course End Survey

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DAY- 6

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Event Name	FIP on Outcome Based Education -Day-6
Theme	Outcome Based Education (OBE)
Date& Time	22nd Oct 2022 Time: 2.30 PM to 5.00 PM
Venue	Architecture Block Seminar Hall
Faculty	7th Semester Faculty Members - DSATM

- Dr. M. RAVISHANKAR, Principal, DSATM started the session with the significance of the Closure of Quality Loops and how it is ended by using FCAR.
- Discussed 25+ Frequently Asked Questions (Program Outcome based)
- Discussed about how the Attainment of Program Outcomes calculation and the Direct Assessment values applied with examples using CIE and SEE and also explained Indirect assessment values of PO's calculation using Program Exit Survey.
- Then, explained final PO attainment level calculation with examples by considering Direct Assessment with 80% and Indirect Assessment with 20%.

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Event Name	Faculty Immersion Program on Outcome Based Education
Theme	OBE – Outcome Based Education
Date	17th – 22nd Oct,2022 & 14th – 18th Nov,2022 & 9th – 12th Jan, 2023
Venue	M Block Seminar Hall – DSATM

Objectives of the Program:

1. The objective of the program was to explain the importance of the outcome-based approach in the current education system and to differentiate the traditional and outcome-based approach.

2. To provide good exposure to ideas and concepts underlying Outcome-based Education, particularly with reference to teaching and learning.

3. To nurture knowledge on Attainment calculation and preparation of quality question paper for Internal exams

Coordinator:

Photos: (4 Geo Tagged Photos)

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Purpose:

Outcome-based education (OBE) is an educational theory or pedagogy that places students at the center of an academic program. It presupposes that by the end of a learning session, each student would have attained a level of mastery of the course so as to be in a position to realize on the completion of the course, a standard of achievement. The realization of the standard in all the courses which together constitute a program is the end goal. If through the Course outcomes (COs) in all the courses in the curriculum, certain Program outcomes (POs) are not addressed or attained, then it is said that there are curricular gaps in achieving the POs. These curricular gaps are addressed through co-curricular and extra-curricular activities, which are beyond the curriculum.

About the topic:

The program was to engage faculty of the institution in OBE practices and address the GAP in the TLP (Teaching Learning Process). The faculty members were addressed on the importance and need for OBE and student centric approach in the TLP. With the accreditation process and importance, emphasis being laid on the students to be able to think and explore various alternatives and opportunities, the design of curriculum and the implementation of the standards takes great precedence in the institute. The need to set higher order questions and inculcate the thinking and innovation capabilities of the students is of outmost importance. Demonstration of Bloom's Taxonomy, its importance and usage in design in curriculum was also discussed, The Graduate Attributes as per the Washington Accord was also deliberated upon for the better understanding and implementation by the faculty in curriculum design. Outcome-based education (OBE) is a student-centered instruction model that focuses on measuring student performance through outcomes. Outcomes include knowledge, skills and attitudes. The fourth-day program started with the attainment calculation of Course outcomes, Program outcomes &Program Specific outcomes and ended with the an explanation of the steps to prepare quality question paper for Internal exam.

Resource person: Dr. M Ravishankar – Principal, Dayananda Sagar Academy of Technology and Management

Addressing the GAP:

Preferably Measurable outcomes:

At the end of the session, the participants were able to:

- Gain Knowledge on how to calculate the attainment of Course comes, Program outcome, and Program Specific outcome.
- Preparation of quality question paper for internals.
- Set and Design quality CO's and corresponding course content and delivery module to achieve the target Outcomes.

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Impact of the feedback:

- The feedback so obtained from the faculty was positive and analysis of the feedback indicates that faculty have gained considerable knowledge on OBE education.
- More case examples and patterns of subjects should be incorporated for better understanding of OBE and its design, especially for Non-circuit branches.
- The faculty have impressed on the need for more such programs for effective and efficient TLP.

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