



CRITERIA 6

6.5.1

6.5.1 Internal Quality Assurance Cell (IQAC) has contributed significantly for institutionalizing the quality assurance strategies and processes. It reviews teaching learning process, structures & methodologies of operations and learning outcomes at periodic intervals and records the incremental improvement in various activities.

(10 Marks)

CURRICULUM UPDATION

IN THIS FILE

- **CURRICULUM ENHANCEMENT & ENRICHMENT FRAMEWORK**
- **COURSE ATTAINMENT TOOLS**
- **ATTAINMENT CALCULATION**

PROPOSED FRAMEWORK
CEE (CURRICULUM ENHANCEMENT & ENRICHMENT)
(in line with National Education Policy, UGC's Choice Based Credit System and
NAAC's Recommendation)

The proposed framework of CEE should be implemented from academic session 2021-22. The salient features of the framework are as follows: -

- I. All programmes across Sushant University to facilitate multiple exit options which will lead to appropriate certifications/diploma/degree/advanced degree/honours (specific to respective disciplines). Accordingly, it is mandatory to balance inclusion of skill based core courses during the foundation years (1st and 2nd) so that students are employable after the said certifications. The NEP document states that a certificate after completing 1 year in a discipline or field including vocational and professional areas, or a diploma after 2 years of study, or a Bachelor 's degree after a 3-year programme can be provided.
- II. The school should explore to start integrated Master's programme (in various discipline like MBA, MTech, MPlan etc) in line with educational policy.
- III. To provide holistic and multidisciplinary education, Transdisciplinary Learning (TDL) is reintroduced as Transdisciplinary Certificate Course (TDCC) of two credits each with LTP of 1-0-2. It is recommended that 4 TDCCs for UG and 2 TDCCs for PG to be spread across the entire programme. TDCC should not be included during first semester. School to fix the TDCCs in the programme structure in consultation with Dean Academic Affairs. At university this can be balanced in odd and even semesters. The details are provided in the table that follows.
- IV. To provide added value to the respective programmes of Sushant University, compulsory certificate course(s) from academic partner of SU (for example Harvard Business School). The details are provided in the table that follows.



FRAMEWORK

NATURE OF COURSE	PERCENTAGE (respective to total credits of the programme)	DETAILS	About (as per UGC CBCS guidelines)	EXAMPLE
CORE COURSES	60-70 %	To be spread in various semesters as per the requirements of the programme	Courses compulsorily to be studied for the programme	<ul style="list-style-type: none"> Hotel Management- F&B Service, Accommodation etc Engineering – Engg. Math, Programming etc
Discipline Specific Electives (DSE) Courses	10-15%	To be spread in the later semesters	Discipline related elective courses (School specific Courses)	<ul style="list-style-type: none"> Computer Science Engg. – Artificial Intelligence, Internet of Things etc Hotel Management – Revenue Management, F&B control, Project Management etc
<p><i>Generic Elective(GE) I</i></p> <p>TDL* to be renamed as TDCC (Trans-Disciplinary Certification Course) and certificate for each TDCC to be provided</p>	5-10 %	To include multidisciplinary/Indian Knowledge System	<p>TDCC – 4 courses in UG and 2 in PG of 2 credits (LTP 1-0-2) across the entire programme during academic semesters (not to be included during internship semester). Not to be included in 1st semester. To balance number of students in Even & Odd semester, it is recommended that SHS, VHTBS, SOB, SOL should offer these courses in Even Semester and rest of the schools in Odd Sem</p>	<ul style="list-style-type: none"> Basket of courses to be created at university level with each school providing minimum of four courses from their respective schools. TDCC coordinator of the University to manage the same. Each student will be provided certificate on successful completion of these courses by COE office. Brochure of TDCCs offered during semester to be prepared by university Coordinator. Student can be permitted to take any course from outside agency/platform (online or offline) e.g. - SWAYAM, NPTEL, edX, Coursera, MIT OCW etc. (minimum 20 lecture/contact hours). Validation and confirmation of registration should be done centrally by TDCC coordinator. The cost of such certification to be borne by the student. For grading, one faculty coordinator should assign marks based on the marks scored in course (if any) or assign marks based on presentation/viva/project etc given by the student

				<ul style="list-style-type: none"> • NEP recommendations – courses related to sciences, social sciences, liberal arts, literature, humanities, law, management. • Schools to ensure that at least one course out of four to be in the category of Indian Knowledge system. • NAAC, recommendations – universal human values, ethics, sustainability, constitutional values, gender issues and sports etc.
<p>Generic Elective (GE) II Certification course from external agencies (academic partner of SU)</p>	5-10 %	To bring added value to the programme	<p>Harvard Business School Online - 2 courses for 4 or 5 year programmes. 1 course for 2 or 3 year programme. (credits be calculated based on the number of hours of selected course (1 credit ~15 hours</p> <p>For SHS and LLM, certificate courses from Barclay etc. can be explored</p>	<ul style="list-style-type: none"> • The cost of such certification to be borne by the student (which has to be included as a part of programme fee). The courses to be included in the programme structure should be approved in the BoS. These courses can be from Harvard Business School Online, or any other external agencies/academic partner of Sushant University. • For grading, one faculty coordinator should assign marks based on the marks scored in course (if any) or assign marks based on presentation/viva/project etc given by the student. One contact hour to reflect in the timetable for these courses.
<p>**Internships/ Apprenticeship/ Dissertation/Projects/ Self-Study/ Online Courses</p>	15 - 30%	<p>Each programme structure should incubate one or more of the following –</p> <ol style="list-style-type: none"> 1. Projects 2. Dissertation/Thesis 3. Internships 4. Online courses/Self-Study/Term-Paper 	<p>Elective course designed to acquire special/advanced knowledge, such as supplement study/ support study to a project work/ report</p>	



Skill Enhancement Course (SEC)	5-10%	These courses provide value based or additional skill based knowledge to support the main discipline 2 courses during second year (2 credits each)	School to define the courses, resource persons to be pitched in by speciality schools	<ul style="list-style-type: none"> Foreign Language, Economics, Accounting, First-Aid, Health & Nutrition, Social Media, Information Technology, Leadership, Entrepreneurship, Data Analytics, Design thinking, Marketing, Law, Sales etc
Ability Enhancement Compulsory Course (AECC)	Minimum 2 courses	Programme Structure has to have a minimum of 2 courses in order to develop student skills (during first year)	Based upon the content that leads to knowledge enhancement – Environment Science (Environment Science, English Communication, Modern Indian Language)	<ul style="list-style-type: none"> University level standard courses to be designed by SET (Environment Science), CRC (English Communication/modern Indian Language communication)LTP (1-0-2) SHM, SHS, SoL, SoB to offer EVS during first semester and others to offer Communication during first semester. Vice versa in second semester
Service Learning/ Community Service	2 credits	Each programme structure should have one or more subjects which may be include of the following – Work for NGO Work for Unnat Bharat Abhiyan Work for Swach Bharat Abhiyan Develop projects for city/villages/university Community Services Awareness Drives Work for NSS/NCC/Red Cross/YRC	To be organized by school either at school level or university level or community level or city level depending upon the nature of the activity	<ul style="list-style-type: none"> Following records need to be maintained for the same Creative, attendance of students and faculty, geo-tagged pics, report etc (to be submitted to NAAC Office) naacau@ansaluniversity.edu.in Internal Certificates should be issued to the students

***(About TDL and TDCC) –**

- For all the existing programme, TDL will run as usual
- TDCC will be applicable to the batches 2021 onwards
- All the schools to ensure courses floated in TDL and TDCC should be unique (same nomenclature to be avoided)



****Internships/Apprenticeship Guidelines for Internship embedded Degree Programmes as per UGC**

- 20 % of the total credit or minimum of 24 credits – To be assigned to internship
- Internship should be in the specific domain Areas
- At least 1 complete semester duration to be internship in degree programmes. (*The Internship could be scheduled either continuously or at intervals depending upon the requirement and practicality of the discipline*).
- Minimum requirement of 24 credits in UG Programme in any discipline specific Elective course will enable a student to pursue PG in that specific discipline.
- The Evaluation pattern of Internship to include assessment by both Industry & Academia.
- It is mandatory to successfully pass internship or cleared to enable a student to be eligible get a degree.
- Specific Learning outcome for the Internship programme to be developed & maintained domain wise.
- Prior MOU with the Commercial organization /office/Industry before sending the students of before introducing internship embedded program.
- University to have an apprenticeship / Internship cell to keep the record (necessary) of the Internship related Activities. (This department to regularly update the internship information on a dedicated portal maintained by UGC.



TEMPLATE OF PROGRAMME STRUCTURE BASED ON CBCS

PRE - REQUISITE FOR JOINING – Program Introduction Project (in corporate) for 1 month.

Each school to design the guidelines for this introduction project as per their respective disciplines. The student to give a project presentation of his key learnings during the orientation programme. The project intends to excite the students for the chosen discipline and introduce them to the industry first hand.

<u>S.NO</u>	<u>NATURE OF COURSES</u>	<u>Reflection in Programme Structure across the total programme</u>
1	Core Courses	60-70 %
2	Discipline Specific Electives (DSE) Courses	10-15%
3	<i>Generic Elective(GE) I</i> TDCC (Trans-Disciplinary Certification Course) (Not a part of 1 st Semester) To include multidisciplinary/Indian Knowledge System)	4 courses in UG and 2 in PG of 2 credits (LTP 1-0-2)
4	<i>Generic Elective (GE) II</i> Certification course from external agencies (academic partner of SU)	2 courses for 4/5 Years Programme & 1 course for 2/3 Years Programme
5	<i>Internships/Apprenticeship/Dissertation/Projects/Self-study/Online-courses</i>	20 % of the total credit of the programme or minimum of 24 credits
6	Skill Enhancement Course (SEC)	2 courses of 2 credit each during 2 nd year
7	Ability Enhancement Compulsory Course (AECC) (Environment Science , English Communication ,Modern Indian Language)	Minimum 2 courses of 2 credit each
8	Service Learning/ Community Service	1 course of 2 credits





Record of Tools Required for Calculation of Attainment





VATEL HOTEL & TOURSIM BUSINESS SCHOOL

CO PO Attainment Tool

These are measurable instruments used to evaluate students' performance against predefined learning outcomes.

A. Direct Assessment Tools

1. Continuous Internal Assessment (CIA):

- o *Description:* Includes assignments, presentation, quizzes and conducted midterm exam once in semester
- o *Purpose:* Helps identify individual student learning gaps and overall progress.
- o *Example Tool:*
 - Rubrics for sessional exam evaluation.
 - Marksheets for assignments and sessional exam.

2. End-Term Examination:

- o *Description:* Comprehensive exams that evaluate students' grasp of the entire syllabus.
- o *Purpose:* Contributes to final CO attainment by testing higher-order cognitive skills.
- o *Example Tool:* Detailed answer evaluation matrices mapped to COs.
 - o Questions designed to assess basic understanding and foundational knowledge.
 - o Inclusion of analytical or case-based questions.



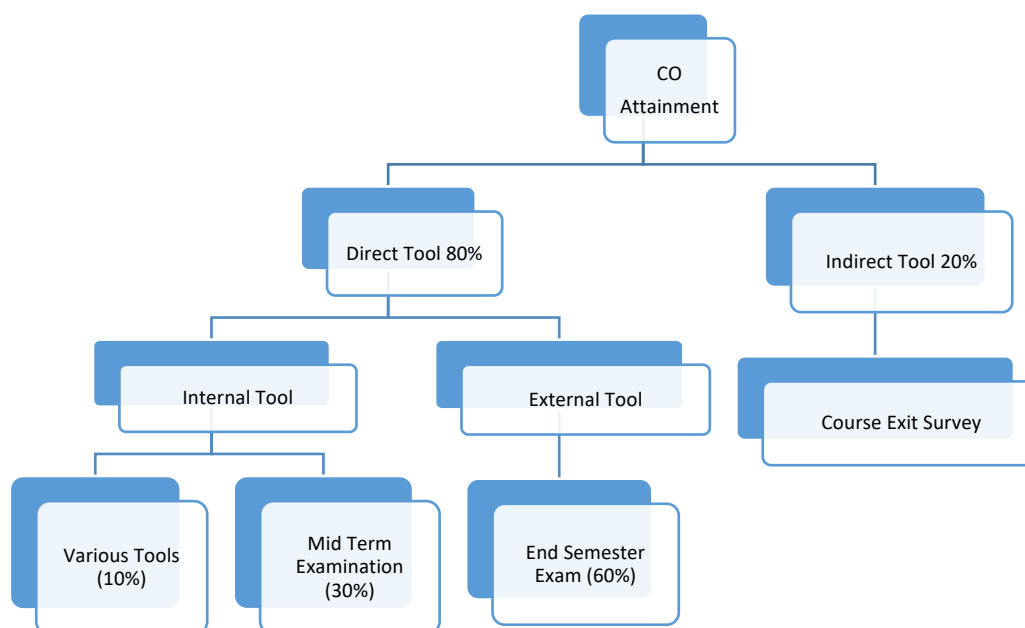


Figure 1: List of Course Assessment tools

B. Indirect Assessment Tools

These tools measure students' overall performance in relation to the learning outcomes.

1. Course Exit Surveys:

- o *Description:* Faculty mark this survey on the basis of CIA (Continuous internal assessment, attendance, class conduct and event participation).
- o *Purpose:* To assess the extent to which students have achieved the intended learning outcomes and to gather insights for improving course content and delivery
- o *Example Tool:* Continuous performance evaluation of student.

S. No.	Assessment tool	Sub category	Methodology	Weightage	Overall Percentage
1	Direct	Internal	Various tools <ul style="list-style-type: none"> Assignments/ Group projects or Presentations/ Quiz 	10%	80%
2			Mid Semester Exams <ul style="list-style-type: none"> Theory exam Practical exam (where applicable) 	15% 15%	
			End Semester exam <ul style="list-style-type: none"> Theory Practical (wherever applicable) 	35% 25%	
3	Indirect	Course Exit Survey			20%

3. Evaluation and Attainment Analysis

The attainment of learning outcomes is calculated through a weighted combination of direct and indirect assessments:

Formula for Attainment:

Total Attainment= (Direct Attainment Weightage) × (Direct Assessment Average) + (Indirect Attainment Weightage) × (Indirect Assessment Average)

4. Tools for Advanced Learners

- Encouragement for completing certificate courses for MOOCs
- Encouragement for participating in competitions/Seminars/conferences etc
- Challenging assignments for increased engagement Application-based assignments requiring critical thinking.

5. Tools for Slow Learners

- Remedial classes
- Peer tutoring groups adopted for better learning
- Motivation and personal attention by faculty mentor.

Conclusion:

The implementation of CO-PO attainment tools, complemented by robust technological integration and faculty training ensures an effective evaluation of learning outcomes. Direct and indirect assessments provide a balanced approach, accommodating the diverse needs of slow and advanced learners. By leveraging data-driven insights and stakeholder feedback, institutions can continuously enhance the alignment of course outcomes with program objectives, ultimately driving student success and institutional excellence.





Attainment Calculation Procedure (OBE)



Report on CO-PO Calculation Procedure

Introduction

The Course Outcome (CO) to Program Outcome (PO) mapping is a crucial aspect of academic quality assurance, especially for accreditation purposes. This report outlines a systematic procedure to calculate CO-PO attainment using assessment data, surveys, and predefined mappings. An example with 10 students is used for illustration, and screenshots of relevant data and calculations are provided.

Procedure for CO-PO Calculation

Step 1: Data Collection

Assessment data is gathered from multiple sources, such as:

Direct Source:

- Assignments
- Mid Term Exam or Sessional Exams (I and II, applicable for PCI allied course only)
- Group Projects or Presentations
- End-Term Examinations

Indirect Source:

- Course Exit Survey

Table 1. Course attainment Levels.

Assessment Methods	Attainment Levels
Fina Grade	LEVEL – 1 Less than 50% students scoring more than average% marks.
	LEVEL – 2 50% to less than 60% students scoring more than average % marks.
	LEVEL – 3 more than 60% students scoring more than average % marks in internal assessment marks

For example, the data from the "Ist Sessional" sheet is shown below:

SUSHANT UNIVERSITY
Vatel Hotel & Tourism Business School
Assignment (Even Semester 2023-24)

Program:	BHM	Semest	VIII	Assignm	02-02-
		er :		ent	2024
				Date:	

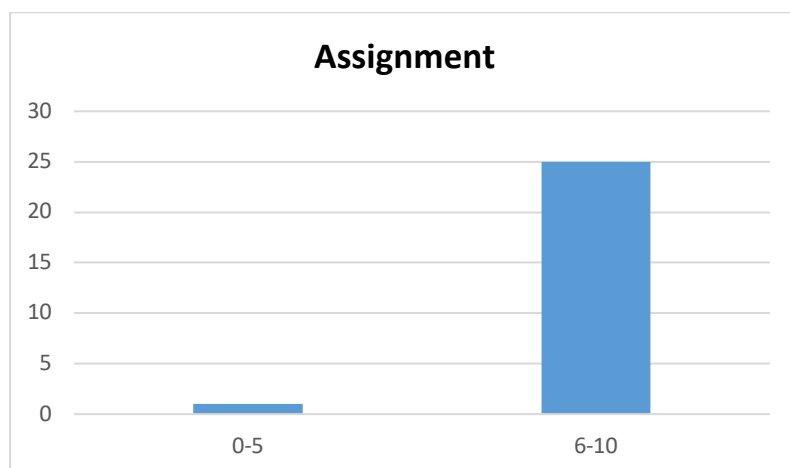
Course Code: 20BHM-0TT42T **Course Name:** Tourism and Travelling **Faculty Name:** AASHIYAN

S. No.	Enrolment No.	Student Name	Batch No	Q1 (10 Marks)	Attainment	Total Marks (10)
				CO1	CO1 (10 Marks)	
1	200BHM002	Bhavay Arora	2020-2024	7	7	7
2	200BHM003	Gurman Singh Bindra	2020-2024	8	8	8
3	200BHM007	Harsh Sehrawat	2020-2024	8	8	8
4	200BHM011	Lakshay Rana	2020-2024	6	6	6
5	200BHM012	Prapti Syal	2020-2024	7	7	7
6	200BHM013	Kuldeep Yadav	2020-2024	7	7	7
7	200BHM016	Lisuka H Ayemi	2020-2024	8	8	8
8	200BHM017	Tahir Khan	2020-2024	6	6	6
9	200BHM018	Ruby Singh	2020-2024	8	8	8
10	200BHM029	Yuvraj Ahaan Bisht	2020-2024	8	8	8
11	200BHM010	Amrit	2020-2024	9	9	9
12	200BHM021	Akshat Wadhwa	2020-2024	7	7	7
13	200BHM022	Eknoor Singh Sandhu	2020-2024	6	6	6
14	200BHM024	Himanshu Sehrawat	2020-2024	7	7	7
15	200BHM026	Ravtej Oberoi	2020-2024	7	7	7
16	200BHM027	Ritesh Pratap Singh	2020-2024	7	7	7
17	200BHM030	Shubham	2020-2024	8	8	8
18	200BHM031	Naman Ohri	2020-2024	8	8	8
19	200BHM032	Tanuj Makkar	2020-2024	7	7	7

20	200BHM033	Tulsi Shukla	2020-2024	7	7	7
21	200BHM035	Aman	2020-2024	8	8	8
22	200BHM036	Ankit Singh Negi	2020-2024	7	7	7
23	200BHM037	Anuj Kerketta	2020-2024	8	8	8
24	200BHM039	Sanjay Singh	2020-2024	8	8	8
25	200BHM040	Sourav Yadav	2020-2024	0	0	0
26	200BHM041	Abhishek Yadav	2020-2024	8	8	8
Total Students						26
Average					7.115384615	7.81
Total Students Appeared In Assignment 1 (N)						25
Number of students scored average% and above marks (P)					12	
CO attainment (P/N)*100					48.00%	

Average Marks	Max Marks	Min. Marks	Std Deviation	Less than 40%
7	9	0	1.63	4.00%

Students Marks	0-5	6-10	
Assignment	1	25	



Step 2: CO Mapping

Each assessment component contributes to specific Course Outcomes (COs). Weightages are assigned based on the relative importance of the assessment. These weightages are predefined and reflected in the "CO Direct Attainment" sheet, which aggregates scores from all assessments:

Step 3: Direct Attainment Calculation

Direct attainment is calculated using the weighted averages of the scores from various assessments. The formulae for these calculations are embedded in the file and reflect:

Where *Score*, is the student's score in the assessment contributing to the CO, and *Weightage* is the corresponding weight

SUSHANT UNIVERSITY				
Vatel Hotel & Tourism Business School				
Result Analysis (Even Semester 2023-24)				
Program:	BHM	Sem:	VIII	
Course			20BHM-	
Name:	Tourism and Travelling	Course Code:	0TT42T	
Faculty		Date of		
Name:	AASHIYAN	Analysis:	27-05-2024	
Consolidated CO Attainment (Internal)				
Mid term 20 : Assignment/Presentation 20				
COs	Assessment Tools			Total
	Mid-Term	Assignment	Presentation	
CO1	2	1		0.55
CO2	3			0.45
CO3	1			0.15
CO4			3	0.75
CO5			1	0.25
Consolidated CO Attainment (Internal+External)				
Internal 40 : External 60				
COs	Internal (Mid term+Assignment+Presentation)	End Term (ESE)	Total	
CO1	0.55	2	1.42	
CO2	0.45	2	1.38	

CO3	0.15	2	1.26
CO4	0.75	2	1.5
CO5	0.25	2	1.3

Step 4: Indirect Attainment Calculation

Indirect attainment is derived from surveys, reflecting students' perceived achievement of the COs. These are combined with direct attainment to calculate overall CO attainment.

Vatel Hotel & Tourism Business School, Sushant University, Gurugram										
Academic Year - Even 2023-24										
Course Exit Survey										
Program: BHM			Sem: VIII							
Course Name: Tourism and Travelling			Course Code: 20BHM-0TT42T							
Faculty Name: AAS HIY AN			Date of Survey: 26-04-2024							
Student Full Name	CO1		CO2		CO3		CO4		CO5	
	Course Exit survey parameter 1	Attainment of CO1	Course Exit survey parameter 2	Attainment of CO2	Course Exit survey parameter 3	Attainment of CO3	Course Exit survey parameter 4	Attainment of CO4	Course Exit survey parameter 5	Attainment of CO5
Bhavay Arora	Good	12	Good	12	Excellent	20	Good	12	Good	12
Gurman Singh Bindra	Very Good	16	Excellent	20	Very Good	16	Good	12	Very Good	16
Harsh Sehrawat	Very Good	16	Good	12	Very Good	16	Good	12	Very Good	16
Lakshay Rana	Excellent	20	Excellent	20	Excellent	20	Excellent	20	Very Good	16
Prapti Syal	Good	12	Excellent	20	Very Good	16	Fair	8	Fair	8
Kuldeep Yadav	Excellent	20	Very Good	16	Very Good	16	Good	12	Very Good	16
Lisuka H Ayemi	Very Good	16	Very Good	16	Very Good	16	Very Good	16	Very Good	16

Tahir Khan	Very Good	16	Excellent	20	Very Good	16	Excellent	20	Very Good	16
Ruby Singh	Poor	4	Poor	4	Poor	4	Poor	4	Poor	4
Yuvraj Ahaan Bisht	Poor	4	Poor	4	Poor	4	Poor	4	Poor	4
Amrit	Excellent	20	Good	12	Good	12	Good	12	Very Good	16
Akshat Wadhwa	Very Good	16	Very Good	16	Very Good	16	Very Good	16	Very Good	16
Eknoor Singh Sandhu	Excellent	20	Excellent	20	Excellent	20	Excellent	20	Excellent	20
Himanshu Sehrawat	Very Good	16	Very Good	16	Very Good	16	Very Good	16	Very Good	16
Ravtej Oberoi	Excellent	20	Excellent	20	Excellent	20	Excellent	20	Excellent	20
Ritesh Pratap Singh	Excellent	20	Excellent	20	Excellent	20	Excellent	20	Very Good	16
Shubham	Very Good	16	Good	12	Good	12	Excellent	20	Very Good	16
Naman Ohri	Fair	8	Good	12	Good	12	Excellent	20	Very Good	16
Tanuj Makkar	Fair	8	Good	12	Good	12	Very Good	16	Very Good	16
Tulsi Shukla	Very Good	16	Very Good	16	Very Good	16	Very Good	16	Very Good	16
Aman	Excellent	20	Excellent	20	Excellent	20	Excellent	20	Excellent	20
Ankit Singh Negi	Excellent	20	Excellent	20	Excellent	20	Excellent	20	Very Good	16
Anuj Kerketta	Very Good	16	Very Good	16	Good	12	Excellent	20	Very Good	16
Sanjay Singh	Very Good	16	Very Good	16	Good	12	Excellent	20	Very Good	16

Sourav Yadav	Very Good	16	Very Good	16	Good	12	Excellent	20	Very Good	16
Abhishek Yadav	Very Good	16	Very Good	16	Good	12	Excellent	20	Very Good	16
Average		15.38 46153 8		15.53 84615 4		14.92 30769 2		16		15.07 69230 8
No of students ≥Avg		20		18		16		18		22
Total students		26		26		26		26		26
Attainment Level (%)		76.92 %		69.23 %		61.54 %		69.23 %		84.62 %
Attainment Level		3		3		3		3		3

Assessment Methods	Attainment Levels	
Assessment	Level 1	Less than 50% students scoring more than average% marks.
	Level 2	50% to less than 60% students scoring more than average % marks.
	Level 3	more than 60% students scoring more than average % marks in internal assessment tools

<p align="center">SUSHANT UNIVERSITY Vatel Hotel & Tourism Business School CO Attainment (Even Semester 2023-24)</p>			
Program:	BHM	Sem:	VIII
Course Name:	Tourism and Travelling	Course Code:	20BHM-0TT42T
Faculty Name:	AASHIYAN	Date of Analysis:	27-05-2024
COs	Direct (80%)	Indirect (20%)	Total (100%)
CO1	1.42	3	1.736
CO2	1.38	3	1.704
CO3	1.26	3	1.608

CO4	1.5	3	1.8
CO5	1.3	3	1.64

Step 5: PO Mapping

Each CO is mapped to specific POs and PSOs with predefined weightages, which are documented in the "PO-PSO Attainment" sheet. An example of this mapping is shown below:

Step 6: Attainment Levels

The overall attainment for each PO is calculated as a weighted sum of the CO contributions. This is summarized in the "PO-PSO Attainment" sheet.

SUSHANT UNIVERSITY																
Vatel Hotel & Tourism Business School																
CO-PO-PSO Mapping (Even Semester 2023-24)																
Program:	BHM							Sem:	VIII							
Course Name:	Tourism and Travelling							Course Code:	20BHM-OTT42T							
Faculty Name:	AASHIYAN							Date of Analysis:	27-05-2024							
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CO1	2				3		3	3	2	2			3	1	3	2
CO2	2				3		3	3	2	2			1	3	1	2
CO3	2				3		3	3	2	2			1	1	3	3
CO4	2	2	3	3	3		3	3	2	2			2	3	3	1
CO5	2	2	3	3	3		3	3	2	2			3	2	1	3
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CO1	3.68	0	0	0	5.208	0	5.208	5.208	3.472	3.472	0	0	5.208	1.736	5.208	3.472
CO2	3.408	0	0	0	5.112	0	5.112	5.112	3.408	3.408	0	0	1.704	5.112	1.704	3.408
CO3	3.216	0	0	0	4.824	0	4.824	4.824	3.216	3.216	0	0	1.608	1.608	4.824	4.824
CO4	3.6	3.6	5.4	5.4	5.4	0	5.4	5.4	3.6	3.6	0	0	3.6	5.4	5.4	1.8
CO5	3.6	3.6	5.4	5.4	5.4	0	5.4	5.4	3.6	3.6	0	0	5.4	3.6	1.8	5.4
Attainment	1.74	1.80	1.80	1.80	1.71	#DIV/0!	1.71	1.71	1.71	1.71	#DIV/0!	#DIV/0!	1.73	1.73	1.71	1.69

Conclusion

This procedure ensures a structured approach to CO-PO attainment calculation, integrating both direct and indirect measures. By using systematic mapping and aggregation, institutions can effectively monitor and enhance the alignment of course outcomes with program objectives.





Record of Tools Required for Calculation of Attainment





VATEL HOTEL & TOURSIM BUSINESS SCHOOL

CO PO Attainment Tool

These are measurable instruments used to evaluate students' performance against predefined learning outcomes.

A. Direct Assessment Tools

1. Continuous Internal Assessment (CIA):

- o *Description:* Includes assignments, presentation, quizzes and conducted midterm exam once in semester
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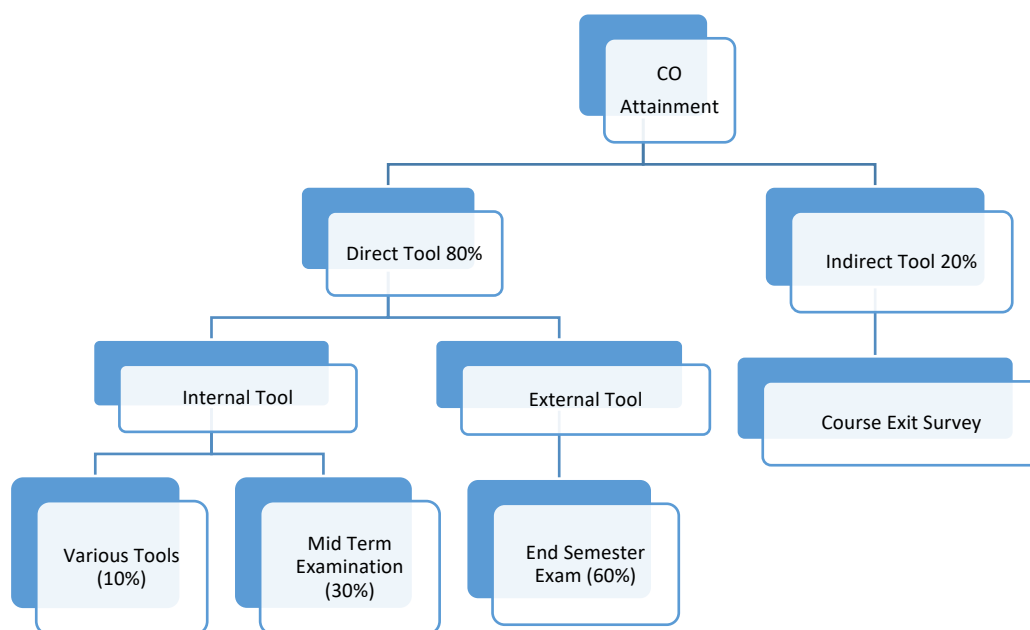


Figure 1: List of Course Assessment tools

B. Indirect Assessment Tools

These tools measure students' overall performance in relation to the learning outcomes.

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- o *Description:* Faculty mark this survey on the basis of CIA (Continuous internal assessment, attendance, class conduct and event participation).
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S. No.	Assessment tool	Sub category	Methodology	Weightage	Overall Percentage
1	Direct	Internal	Various tools <ul style="list-style-type: none"> Assignments/ Group projects or Presentations/ Quiz 	10%	80%
2			Mid Semester Exams <ul style="list-style-type: none"> Theory exam Practical exam (where applicable) 	15% 15%	
			End Semester exam <ul style="list-style-type: none"> Theory Practical (wherever applicable) 	35% 25%	
3	Indirect	Course Exit Survey			20%

3. Evaluation and Attainment Analysis

The attainment of learning outcomes is calculated through a weighted combination of direct and indirect assessments:

Formula for Attainment:

Total Attainment= (Direct Attainment Weightage) × (Direct Assessment Average) + (Indirect Attainment Weightage) × (Indirect Assessment Average)

4. Tools for Advanced Learners

- Encouragement for completing certificate courses for MOOCs
- Encouragement for participating in competitions/Seminars/conferences etc
- Challenging assignments for increased engagement Application-based assignments requiring critical thinking.

5. Tools for Slow Learners

- Remedial classes
- Peer tutoring groups adopted for better learning
- Motivation and personal attention by faculty mentor.

Conclusion:

The implementation of CO-PO attainment tools, complemented by robust technological integration and faculty training ensures an effective evaluation of learning outcomes. Direct and indirect assessments provide a balanced approach, accommodating the diverse needs of slow and advanced learners. By leveraging data-driven insights and stakeholder feedback, institutions can continuously enhance the alignment of course outcomes with program objectives, ultimately driving student success and institutional excellence.





Attainment Calculation Procedure (OBE)



Report on CO-PO Calculation Procedure

Introduction

The Course Outcome (CO) to Program Outcome (PO) mapping is a crucial aspect of academic quality assurance, especially for accreditation purposes. This report outlines a systematic procedure to calculate CO-PO attainment using assessment data, surveys, and predefined mappings. An example with 10 students is used for illustration, and screenshots of relevant data and calculations are provided.

Procedure for CO-PO Calculation

Step 1: Data Collection

Assessment data is gathered from multiple sources, such as:

Direct Source:

- Assignments
- Mid Term Exam or Sessional Exams (I and II, applicable for PCI allied course only)
- Group Projects or Presentations
- End-Term Examinations

Indirect Source:

- Course Exit Survey

Table 1. Course attainment Levels.

Assessment Methods	Attainment Levels
Fina Grade	LEVEL – 1 Less than 50% students scoring more than average% marks.
	LEVEL – 2 50% to less than 60% students scoring more than average % marks.
	LEVEL – 3 more than 60% students scoring more than average % marks in internal assessment marks

For example, the data from the "Ist Sessional" sheet is shown below:

SUSHANT UNIVERSITY
Vatel Hotel & Tourism Business School
Assignment (Even Semester 2023-24)

Program:	BHM	Semest	VIII	Assignm	02-02-
		er :		ent	2024
				Date:	

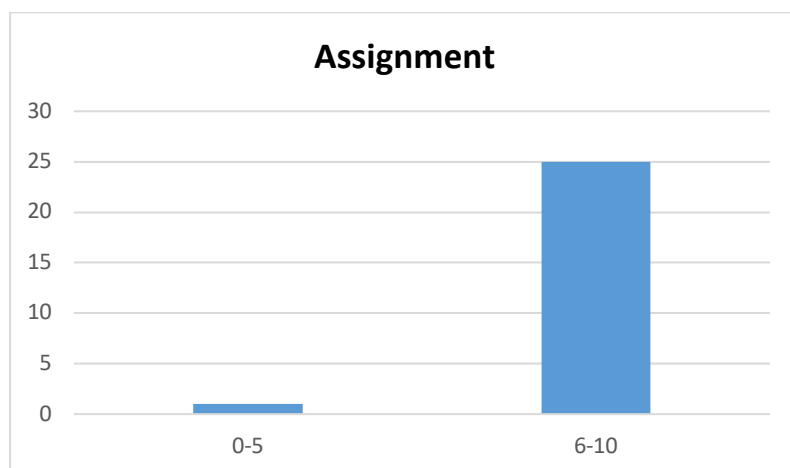
Course Code: 20BHM-0TT42T **Course Name:** Tourism and Travelling **Faculty Name:** AASHIYAN

S. No.	Enrolment No.	Student Name	Batch No	Q1 (10 Marks)	Attainment	Total Marks (10)
				CO1	CO1 (10 Marks)	
1	200BHM002	Bhavay Arora	2020-2024	7	7	7
2	200BHM003	Gurman Singh Bindra	2020-2024	8	8	8
3	200BHM007	Harsh Sehrawat	2020-2024	8	8	8
4	200BHM011	Lakshay Rana	2020-2024	6	6	6
5	200BHM012	Prapti Syal	2020-2024	7	7	7
6	200BHM013	Kuldeep Yadav	2020-2024	7	7	7
7	200BHM016	Lisuka H Ayemi	2020-2024	8	8	8
8	200BHM017	Tahir Khan	2020-2024	6	6	6
9	200BHM018	Ruby Singh	2020-2024	8	8	8
10	200BHM029	Yuvraj Ahaan Bisht	2020-2024	8	8	8
11	200BHM010	Amrit	2020-2024	9	9	9
12	200BHM021	Akshat Wadhwa	2020-2024	7	7	7
13	200BHM022	Eknoor Singh Sandhu	2020-2024	6	6	6
14	200BHM024	Himanshu Sehrawat	2020-2024	7	7	7
15	200BHM026	Ravtej Oberoi	2020-2024	7	7	7
16	200BHM027	Ritesh Pratap Singh	2020-2024	7	7	7
17	200BHM030	Shubham	2020-2024	8	8	8
18	200BHM031	Naman Ohri	2020-2024	8	8	8
19	200BHM032	Tanuj Makkar	2020-2024	7	7	7

20	200BHM033	Tulsi Shukla	2020-2024	7	7	7
21	200BHM035	Aman	2020-2024	8	8	8
22	200BHM036	Ankit Singh Negi	2020-2024	7	7	7
23	200BHM037	Anuj Kerketta	2020-2024	8	8	8
24	200BHM039	Sanjay Singh	2020-2024	8	8	8
25	200BHM040	Sourav Yadav	2020-2024	0	0	0
26	200BHM041	Abhishek Yadav	2020-2024	8	8	8
Total Students						26
Average					7.115384615	7.81
Total Students Appeared In Assignment 1 (N)						25
Number of students scored average% and above marks (P)					12	
CO attainment (P/N)*100					48.00%	

Average Marks	Max Marks	Min. Marks	Std Deviation	Less than 40%
7	9	0	1.63	4.00%

Students Marks	0-5	6-10	
Assignment	1	25	



Step 2: CO Mapping

Each assessment component contributes to specific Course Outcomes (COs). Weightages are assigned based on the relative importance of the assessment. These weightages are predefined and reflected in the "CO Direct Attainment" sheet, which aggregates scores from all assessments:

Step 3: Direct Attainment Calculation

Direct attainment is calculated using the weighted averages of the scores from various assessments. The formulae for these calculations are embedded in the file and reflect:

Where *Score*, is the student's score in the assessment contributing to the CO, and *Weightage* is the corresponding weight

SUSHANT UNIVERSITY				
Vatel Hotel & Tourism Business School				
Result Analysis (Even Semester 2023-24)				
Program:	BHM	Sem:	VIII	
Course			20BHM-	
Name:	Tourism and Travelling	Course Code:	0TT42T	
Faculty		Date of		
Name:	AASHIYAN	Analysis:	27-05-2024	
Consolidated CO Attainment (Internal)				
Mid term 20 : Assignment/Presentation 20				
COs	Assessment Tools			Total
	Mid-Term	Assignment	Presentation	
CO1	2	1		0.55
CO2	3			0.45
CO3	1			0.15
CO4			3	0.75
CO5			1	0.25
Consolidated CO Attainment (Internal+External)				
Internal 40 : External 60				
COs	Internal (Mid term+Assignment+Presentation)	End Term (ESE)	Total	
CO1	0.55	2	1.42	
CO2	0.45	2	1.38	

CO3	0.15	2	1.26
CO4	0.75	2	1.5
CO5	0.25	2	1.3

Step 4: Indirect Attainment Calculation

Indirect attainment is derived from surveys, reflecting students' perceived achievement of the COs. These are combined with direct attainment to calculate overall CO attainment.

Vatel Hotel & Tourism Business School, Sushant University, Gurugram										
Academic Year - Even 2023-24										
Course Exit Survey										
Program: BHM			Sem: VIII							
Course Name: Tourism and Travelling			Course Code: 20BHM-0TT42T							
Faculty Name: AAS HIY AN			Date of Survey: 26-04-2024							
Student Full Name	CO1		CO2		CO3		CO4		CO5	
	Course Exit survey parameter 1	Attainment of CO1	Course Exit survey parameter 2	Attainment of CO2	Course Exit survey parameter 3	Attainment of CO3	Course Exit survey parameter 4	Attainment of CO4	Course Exit survey parameter 5	Attainment of CO5
Bhavay Arora	Good	12	Good	12	Excellent	20	Good	12	Good	12
Gurman Singh Bindra	Very Good	16	Excellent	20	Very Good	16	Good	12	Very Good	16
Harsh Sehrawat	Very Good	16	Good	12	Very Good	16	Good	12	Very Good	16
Lakshay Rana	Excellent	20	Excellent	20	Excellent	20	Excellent	20	Very Good	16
Prapti Syal	Good	12	Excellent	20	Very Good	16	Fair	8	Fair	8
Kuldeep Yadav	Excellent	20	Very Good	16	Very Good	16	Good	12	Very Good	16
Lisuka H Ayemi	Very Good	16	Very Good	16	Very Good	16	Very Good	16	Very Good	16

Tahir Khan	Very Good	16	Excellent	20	Very Good	16	Excellent	20	Very Good	16
Ruby Singh	Poor	4	Poor	4	Poor	4	Poor	4	Poor	4
Yuvraj Ahaan Bisht	Poor	4	Poor	4	Poor	4	Poor	4	Poor	4
Amrit	Excellent	20	Good	12	Good	12	Good	12	Very Good	16
Akshat Wadhwa	Very Good	16	Very Good	16	Very Good	16	Very Good	16	Very Good	16
Eknoor Singh Sandhu	Excellent	20	Excellent	20	Excellent	20	Excellent	20	Excellent	20
Himanshu Sehrawat	Very Good	16	Very Good	16	Very Good	16	Very Good	16	Very Good	16
Ravtej Oberoi	Excellent	20	Excellent	20	Excellent	20	Excellent	20	Excellent	20
Ritesh Pratap Singh	Excellent	20	Excellent	20	Excellent	20	Excellent	20	Very Good	16
Shubham	Very Good	16	Good	12	Good	12	Excellent	20	Very Good	16
Naman Ohri	Fair	8	Good	12	Good	12	Excellent	20	Very Good	16
Tanuj Makkar	Fair	8	Good	12	Good	12	Very Good	16	Very Good	16
Tulsi Shukla	Very Good	16	Very Good	16	Very Good	16	Very Good	16	Very Good	16
Aman	Excellent	20	Excellent	20	Excellent	20	Excellent	20	Excellent	20
Ankit Singh Negi	Excellent	20	Excellent	20	Excellent	20	Excellent	20	Very Good	16
Anuj Kerketta	Very Good	16	Very Good	16	Good	12	Excellent	20	Very Good	16
Sanjay Singh	Very Good	16	Very Good	16	Good	12	Excellent	20	Very Good	16

Sourav Yadav	Very Good	16	Very Good	16	Good	12	Excellent	20	Very Good	16
Abhishek Yadav	Very Good	16	Very Good	16	Good	12	Excellent	20	Very Good	16
Average		15.38 46153 8		15.53 84615 4		14.92 30769 2		16		15.07 69230 8
No of students ≥Avg		20		18		16		18		22
Total students		26		26		26		26		26
Attainment Level (%)		76.92 %		69.23 %		61.54 %		69.23 %		84.62 %
Attainment Level		3		3		3		3		3

Assessment Methods	Attainment Levels	
Assessment	Level 1	Less than 50% students scoring more than average% marks.
	Level 2	50% to less than 60% students scoring more than average % marks.
	Level 3	more than 60% students scoring more than average % marks in internal assessment tools

SUSHANT UNIVERSITY Vatel Hotel & Tourism Business School CO Attainment (Even Semester 2023-24)			
Program:	BHM	Sem:	VIII
Course Name:	Tourism and Travelling	Course Code:	20BHM-0TT42T
Faculty Name:	AASHIYAN	Date of Analysis:	27-05-2024
COs	Direct (80%)	Indirect (20%)	Total (100%)
CO1	1.42	3	1.736
CO2	1.38	3	1.704
CO3	1.26	3	1.608

CO4	1.5	3	1.8
CO5	1.3	3	1.64

Step 5: PO Mapping

Each CO is mapped to specific POs and PSOs with predefined weightages, which are documented in the "PO-PSO Attainment" sheet. An example of this mapping is shown below:

Step 6: Attainment Levels

The overall attainment for each PO is calculated as a weighted sum of the CO contributions. This is summarized in the "PO-PSO Attainment" sheet.

SUSHANT UNIVERSITY																
Vatel Hotel & Tourism Business School																
CO-PO-PSO Mapping (Even Semester 2023-24)																
Program:	BHM							Sem:	VIII							
Course Name:	Tourism and Travelling							Course Code:	20BHM-OTT42T							
Faculty Name:	AASHIYAN							Date of Analysis:	27-05-2024							
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CO1	2				3		3	3	2	2			3	1	3	2
CO2	2				3		3	3	2	2			1	3	1	2
CO3	2				3		3	3	2	2			1	1	3	3
CO4	2	2	3	3	3		3	3	2	2			2	3	3	1
CO5	2	2	3	3	3		3	3	2	2			3	2	1	3
COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CO1	3.68	0	0	0	5.208	0	5.208	5.208	3.472	3.472	0	0	5.208	1.736	5.208	3.472
CO2	3.408	0	0	0	5.112	0	5.112	5.112	3.408	3.408	0	0	1.704	5.112	1.704	3.408
CO3	3.216	0	0	0	4.824	0	4.824	4.824	3.216	3.216	0	0	1.608	1.608	4.824	4.824
CO4	3.6	3.6	5.4	5.4	5.4	0	5.4	5.4	3.6	3.6	0	0	3.6	5.4	5.4	1.8
CO5	3.6	3.6	5.4	5.4	5.4	0	5.4	5.4	3.6	3.6	0	0	5.4	3.6	1.8	5.4
Attainment	1.74	1.80	1.80	1.80	1.71	#DIV/0!	1.71	1.71	1.71	1.71	#DIV/0!	#DIV/0!	1.73	1.73	1.71	1.69

Conclusion

This procedure ensures a structured approach to CO-PO attainment calculation, integrating both direct and indirect measures. By using systematic mapping and aggregation, institutions can effectively monitor and enhance the alignment of course outcomes with program objectives.

