CO-PO Attainment of Master of ScienceinBiotechnologyAY2023-24

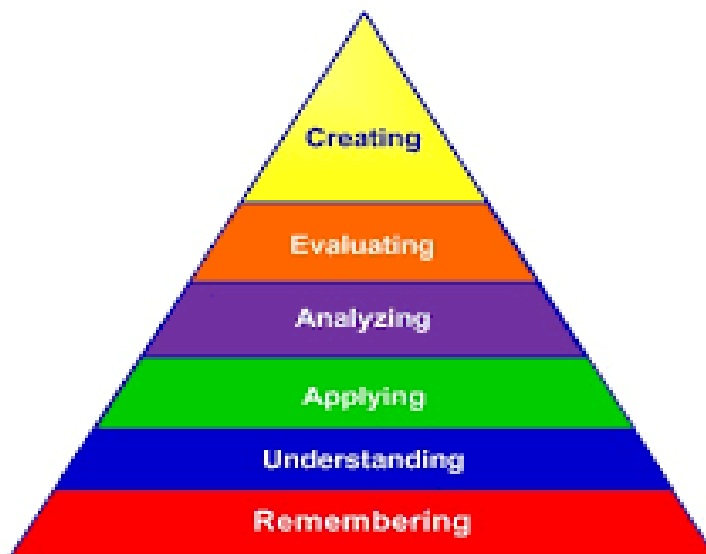## 1. Course Outcomes (COs) and Program Outcomes (POs)

1.1. Establish the correlation between the courses and the Program Outcomes & Program

1.1.1 Course Outcomes (COs)

Course outcomes (COs) are the 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 CO s. The keywords used to define COs are based on Bloom's Taxonomy. The Course Outcomes are defined in accordance with the University curriculum.

Blooms Taxonomy - Revised

CO-PO matrices Methodology

- Students need to develop certain qualities to effectively contribute to Hospital, academia, and society. These qualities are defined as Program Outcomes (POs), and the curriculum is structured to foster them.
- Based on how well the course content supports achieving each PO (e.g., PO1, PO2, PO3, etc.), courses are rated as substantial (3), moderate (2), or slight (1) in their contribution.
- Faculty members align Course Outcomes (COs) with POs, considering the broader goals and relevance of the course. This mapping is finalized through discussions in departmentalcommitteemeetingsandinstitution-widefacultymeetings,resulting in the CO-PO Matrix.

The correlation between Cos and POs are established through the process given below:

Step 1: COs defined by the faculty or given by council are mapped with the Program outcomes.

Step2: For each course, the average value of POs is obtained.

Step3: Step2 is carried out for all the courses in the program.

Target level set for CO attainment from results

Target Set (Attainment Level)	Percentage result
Level1	55-64
Level2	65-74
Level3	≥75

Course-PO matrix of courses for all years of study

The mapping of all the courses with PO's is summarized and presented in following table1.

Note: Correlation levels1, 2 or 3,as defined below:

1: Slight (Low)

2:Moderate (Medium)

3:Substantial (High)

'-'Indicates there is no correlation

Table1: Correlation of CO with POs (All courses)

AARIHANTINSTITUTEOFNURSING					
PROGRAMMENAME:B.SCNURSING					
ACADEMICYEAR:2023-2024					
FINAL DIRECT ATTAINMENT LEVELS FOR PO'S					
SUBJECT	PO1	PO2	PO3	PO4	PO5
83011401	0.29	0.2	0.22222	0.24444	0.22222
83011402	0.29	0.16667	0.22222	0.25	0.22222
83011403	0.29	0.16667	0.22222	0.25	0.22222
83011301	0.26	0.25889	0.16667	0.22222	0.20333
83011302	0.22	0.2	0.22222	0.24444	0.22222
83011303	0.20	0.2	0.22222	0.24444	0.22222
83011304	0.22	0.16667	0.22222	0.25	0.22222
283011401	0.00	0.00	0	0	0
283011402	0.00	0.00	0.00	0.00	0.00
283011403	0.00	0	0	0	0
283011301	0.00	0	0	0	0
283011303	0.00	0.00	0.00	0.00	0.00
283011201	0.24	0.22222	0.2037	0.22222	0.2037
283011202	0.19	0.24074	0.2037	0.22222	0.2037
283011203	0.22	0.22222	0.24074	0.22222	0.22222
283011102	0.20	0.18519	0.2037	0.16667	0.18519
283011103	0.24	0.18519	0.24074	0.2037	0.22222
283011104	0.22	0.22222	0.22222	0.24074	0.22222
TOTALPO ATTAINMENT	3.08	2.63667	2.81481	2.98333	2.79593
COUNT	12	12	12	12	12
AVERAGE ATTAINMENT	**0.26**	**0.22**	**0.23**	**0.25**	**0.23**

1.2. Attainment of Course Outcomes

1.2.1 Describe the assessment components and processes used to gather the data upon which the evaluation of Course Outcome is based

The various assessment components and processes used to gather the data for the evaluation of Course Outcome are described as follows. The maximum marks and the weightage of each assessment component in the final grade are also summarized in the Table 2.

Below table shows the list of assessment processes:

Table2: List of assessment processes

Academic Year	Semesters	Particulars	Marks
2022-23& 2023-24	Odd Semester	Internal Assessment	25
		University Examination	75
	Even Semester	Internal Assessment	25
		University Examination	75

Table 3: Assessment components and processes used for the evaluation of Course Outcome

Assessment components	Marks	Weightage	Quality/ Relevance of assessment process
Internal assessment (IA)	25	25%	The **overall evaluation** of students' performance consists of two main components: **InternalAssessment**:25% of the total marks. **University Examination**: 75% of the total marks. This splitensures both continuous assessment and final examination performance are fairly considered. ➤ **Internal Assessment (25%)** is designed to evaluate students continuously throughout the semester, promoting regular study habits and engagement. It is further divided into three components: **Eg. Internal Examination (10marks),Class Attendance(5marks),Assignment(5marks),** **Grooming (5 marks)**
University assessment End semester			**University Examination**: 75% of the total marks.

Criteria for Pass

- ➢ **Minimum Passing Marks:**
  - Generally, a minimum of 50% in both theory and practical components is required for each subject.
  - Some institutions may have different passing percentages for specific subjects or modules, so it's essential to check the specific guidelines for each course.

- ➢ **Attendance Requirements:**
  - A minimum of 80% attendance in theory and practical classes is usually required for each subject to be eligible to appear for the university examination.
  - In some cases, 100% attendance might be required in practical areas before the degree is awarded.

- ➢ **Internal and External Assessments:**
  - Practical examinations are often conducted jointly by internal and external examiners.
  - Internal assessments (college exams) may also be a part of the evaluation.

1.2.2   **Record the attainment of Course Outcomes of all courses with respect to set attainment levels**

Following Procedure is followed for the assessment of attainment of COs through Internal Assessment marks and end semester marks:

Setting of attainment levels:

Step1:

Course Outcome attainment levels: The CO attainment levels are set for each course in the final examination as target. Accordingly, the target levels for CO attainment are set.

Step 2:

Criteria for setting and improvement of the target levels: For every course the target level for an assessment year is set on the basis of the target achieved in the previous year. For any course, achieving the maximum attainment level of 3 during the

assessment year, the attainment level for the subsequent year shall be redefined by increasing the target marks. Table presents the target levels for CO attainment.

Step 3: Weightage and CO attainment achieved: As per the University curriculum, the total marks for the theory courses is 100, Accordinglythe weightage adopted for the program are:

— 75%weightage for University examination and
25% weightage for internal assessment

Target level for academic year 2022-23 & 2023-24 is shown below:

AARIHANT INSTITUTE OFNURSING							
PROGRAMMENAME:B.SCNURSING							
ACADEMICYEAR:2023-2024							
TARGETMARKSANDLEVELFORACADEMICYEAR2023-2024FORB.SCNURSING							
3,4,SEMIIITHEORY				FOR ENGLISH HELTH/NURSING INFOMATICSANDTECHNOLOGYAND			
TargetLevel	Internal marks	Target level	Externa l	target level	EXTERNAL/ INTERNAL	Target level	external
1	≤14	1	40	1	25	1	
2	15to16			2			
3	≥17			3			

The Course outcomes attained through university examinations and Internal

Assessment are calculated and same is presented in Table 4

Course Name	Course Code	Marks(THEORY)		MARKS (PRACTICAL)		Target	REMARKS
		IA	Final	IA	FINAL		
TARGETMARKSANDLEVELFORACADEMICYEAR2023-2024							
FOURTHYEAR							
MIDWIFERYANDOBSTETRICS NURSING	83011401	14	40	50	100	1	—
COMMUNITYHEALTHNURSINGII	83011402	14	40	50	100	1	—
MANAGEMENTOFNURSINGSERVICESAND EDUCATION	83011403	14	40	—	—	1	—
THIRDYEAR							
MEDICALSURGICALNURSINGII	83011301	14	40	50	100	1	—
CHILDHEALTHNURSING	83011302	14	40	50	100	1	—
MENTALHEALTHNURSING	83011303	14	40	50	100	1	—
NURSINGRESEARCHANDSTATISTICS	83011304	14	40	—	—	1	—
SEMESTERIV							
PHARMACOLOGY I &II, PATHOLOGYI&II&GENETICS	283011401	—	—	—	—	—	AWAITING EXAMINATION
ADULTHEALTHNURSINGII	283011402	—	—	—	—	—	
PROFESNALISM,ETHICSAND PROFESIONALVALUE	283011403	—	—	—	—	—	
SEMESTERIII							
APPLIEDMICROBIOLGY& INFECTIONCONTROL INCLUDINGSAFETY	283011301	—	—	—	—	—	AWAITING EXAMINATION
ADULTHEALTHNURSINGI	283011302	—	—	—	—	—	
SEMESTERII							
APPLIEDNUTRITION&DIETETICS	283011201	14	40	—	—	1	—
NURSINGFOUNDATIONI&II	283011202	14	40	—	—	1	—
HEALTH/NURSINGINFOMATICS &TECHNOLOGY	283011203	25	40	—	—	1	—
SEMESTERI							
COMMUNICATIVEENGLISH	283011102	25	40	—	—	1	—
APPLIEDANATOMY& APPLIEDPHYSIOLOGY	283011103	14	40	—	—	1	—
APPLIEDSOCIOLOGY&APPLIEDPSYCHOLOGY	283011104	14	40	—	—	1	—

Course Outcomes Attainment level and Course Attainment   level for all the courses is compiled.

Table5: Course Outcome Attainment for2023-24

AARIHANTINSTITUTEOFNURSING									
PROGRAMMENAME:B.SCNURSING									
ACADEMICYEAR:2023-2024									
COURSE OUTCOME ATTAINMENT FOR2023-24									
Target Set:				PRECENTAGE					
Level1				≥60					
Level2				61-65					
Level3				≥70					
Course	Course Code	Exam	No. of Students appeared	No. of Students scoring more than 25/25 marks	No. of Students scoring more than 14/40 & 25marks (internal) theory	% students scoring defined	Attainment level	Weighted Score	Course Outcome attainment
FOURTHYEAR									
MIDWIFERYANDOBSTETRICS NURSING	83011401	INT	35	35	35	100.00	3	0.75	2.25
		EXT	35	35	22	62.86	2	1.5	
COMMUNITYHEALTHNURSING II	83011402	INT	35	35	35	100.00	3	0.75	2.25
		EXT	35	35	22	62.86	2	1.5	
MANAGEMENT OFNURSING SERVICESANDEDUCATION	83011403	INT	35	-	35	100.00	3	0.75	3
		EXT	35	_	34	97.14	3	2.25	
THIRDYEAR									
MEDICALSURGICALNURSINGII	83011301	INT	37	37	37	100.00	3	0.75	3
		EXT	37	37	26	70.27	3	2.25	
CHILDHEALTHNURSING	83011302	INT	39	39	39	100.00	3	0.75	1.5
		EXT	39	39	18	46.15	1	0.75	
MENTALHEALTHNURSING	83011303	INT	38	38	37	100.00	3	0.75	3
		EXT	38	38	28	75.68	3	2.25	
NURSINGRESEARCH&STATISTICS	83011304	INT	37	-	37	100.00	3	0.75	2.25
		EXT	37	-	24	64.864 86486	2	1.5	
SEMESTERII									

Subject	Code	Type							
APPLIEDNUTRITION&DIET ETICS	283011201	INT	34	_	34	100.00	3	0.75	3
		EXT	34	_	24	70.59	3	2.25	
NURSINGFOUNDATIONI&II	283011202	INT	34	34	34	100.00	3	0.75	2
		EXT	33	33	21	63.64	2	1.5	
HEALTH/NURSING INFOMATICS&TECHNOLOG Y	283011203	INT	34	_	34	100.00	3	2.25	3
SEMESTERI									
COMMUNICATIVEENGLIS H	283011102	INT	42	_	42	100.00	3	3	3
		EXT	_	_	_	_	_	_	
APPLIEDANATOMY&APPLI EDPHYSIOLOGY	283011103	INT	42	_	42	100.00	1	0.75	2
		EXT	42	_	26	61.904 7619	2	1.5	
APPLIED SOCIOLOGY & APPLIEDPSYCHOLOGY	283011104	INT	42	_	42	100.00	3	0.75	2
		EXT	42	_	29	69.05	2	1.5	

Following Procedure is followed to assess the attainment of PO s.

- For every course the target level for an assessment year is set on the basis of the target achieved in the previous year.
- For any course, achieving the maximum attainment level of 3 during the assessment year, the attainment level for the subsequent year shall be redefined by increasing the target marks.

1.3.2Provide results of evaluation of each PO

Table show the attainment levels for POs through courses for the academic year 2023- 2024

AARIHANTINSTITUTEOFNURSING					
PROGRAMMENAME:B.SCNURSING					
ACADEMICYEAR:2023-2024					
TARGET LEVEL FOR PO'S					
SUBJECT	PO1	PO2	PO3	PO4	PO5
83011401	0.67	0.6	0.66666667	0.73333333	0.66666667
83011402	0.67	0.5	0.66666667	0.75	0.66666667
83011403	0.67	0.5	0.66666667	0.75	0.66666667
83011301	0.78	0.77666667	0.5	0.66666667	0.61
83011302	0.67	0.6	0.66666667	0.73333333	0.66666667
83011303	0.60	0.6	0.66666667	0.73333333	0.66666667
83011304	0.67	0.5	0.66666667	0.75	0.66666667

283011401	0.78	0.83333333	0.5	0.55555556	0.61111111
283011402	0.89	0.66666667	0.66666667	0.66666667	0.77777778
283011403	0.89	0.66666667	0.66666667	0.66666667	0.77666667
283011301	0.78	0.66666667	0.5	0.66666667	0.66666667
283011303	0.72	0.66666667	0.61111111	0.66666667	0.61111111
283011201	0.58	0.5	0.66666667	0.5	0.5
283011202	0.56	0.72222222	0.61111111	0.66666667	0.61111111
283011203	0.67	0.66666667	0.72222222	0.66666667	0.66666667
283011102	0.61	0.55555556	0.61111111	0.5	0.55555556
283011103	0.72	0.55555556	0.72222222	0.61111111	0.66666667
283011104	0.67	0.66666667	0.66666667	0.72222222	0.66666667
SUMOFPO	12.57	11.2433333	11.4444444	12.0055556	11.72
COUNTOFPO	18	18	18	18	18
DIRECTTARGET (AVG)	**0.6982716**	**0.62462963**	**0.63580247**	**0.66697531**	**0.65111111**
ATTAINMENTOFPO DIRECT(Average value found)	**0.26**	**0.22**	**0.23**	**0.25**	**0.23**
80%OFDIRECT ATT	0.21	0.18	0.18	0.20	0.19
20%OFINDIRECT ATTAINMENT	0.98714285	0.96428571	0.85714286	0.79890476	0.98095238
TOTAL	1.20	1.14	1.04	1.00	1.17