P. E. Society's Modern College of Arts, Science and Commerce, Ganeshkhind Pune-411016

PO-PSO-CO Assessment and Attainment manual

Vision

Create Vibrant Knowledge Society driven by 'Progressive' ideas and 'Modern' techniques in education

Mission

"Our goal is to create and develop "Modern" youth as responsible citizens with multi-dimensional personalities by inculcating among students a blending of cultural awareness, compassionate and progressive attitude, scientific insights and time-tested traditional values".

Graduate attributes

Graduate attributes are the high level qualities, skills and knowledge that a student gains as a result of learning in a Higher education Institute (HEI). The graduate attributes help students to broaden their attitude and horizons. The students learn the skills which are necessary for the overall academic and personal development and employability. The graduate attributes define the characteristics of a student's university degree programme(s), and describe a set of characteristics/competencies that are transferable beyond study of a particular subject area and programme. Along with academic skills the students develop as good citizens. The graduate attributes can be divided into generic attributes, knowledge attributes and skill attributes. Students acquire generic attributes such as problem solving ability, teamwork, critical thinking, communication skills, self-management, basic numeracy and social responsibility. The graduate attributes reflect both disciplinary knowledge and understanding, generic skills, including global competencies that all students in different academic fields of study should acquire/attain and demonstrate.

Disciplinary knowledge: Capable of demonstrating comprehensive knowledge and understanding of one or more disciplines that form a part of an undergraduate programme of study.

Communication Skills: Ability to express thoughts and ideas effectively in writing and orally; Communicate with others using appropriate media; confidently share one’s views and express herself/himself; demonstrate the ability to listen carefully, read and write analytically, and present complex information in a clear and concise manner to different groups.

Critical thinking: Capability to apply analytic thought to a body of knowledge; analyse and evaluate evidence, arguments, claims, beliefs on the basis of empirical evidence; identify relevant assumptions or implications; formulate coherent arguments; critically evaluate practices, policies and theories by following scientific approach to knowledge development.

Problem solving: Capacity to extrapolate from what one has learned and apply their competencies to solve different kinds of non-familiar problems, rather than replicate curriculum content knowledge; and apply one's learning to real life situations.

Analytical reasoning: Ability to evaluate the reliability and relevance of evidence; identify logical flaws and holes in the arguments of others; analyse and synthesise data from a variety of sources; draw valid conclusions and support them with evidence and examples, and addressing opposing viewpoints.

Research-related skills: A sense of inquiry and capability for asking relevant/appropriate questions, problematising, synthesising and articulating; Ability to recognise cause-and-effect relationships, define problems, formulate hypotheses, test hypotheses, analyse, interpret and draw conclusions from data, establish hypotheses, predict cause-and-effect relationships; ability to plan, execute and report the results of an experiment or investigation.

Cooperation/Teamwork: Ability to work effectively and respectfully with diverse teams; facilitate cooperative or coordinated effort on the part of a group, and act together as a group or a team in the interests of a common cause and work efficiently as a member of a team.

Scientific reasoning: Ability to analyse, interpret and draw conclusions from quantitative/qualitative data; and critically evaluate ideas, evidence and experiences from an open-minded and reasoned perspective.

Reflective thinking: Critical sensibility to lived experiences, with self-awareness and reflexivity of both self and society.

Information/digital literacy: Capability to use ICT in a variety of learning situations, demonstrate ability to access, evaluate, and use a variety of relevant information sources; and use appropriate software for analysis of data.

Self-directed learning: Ability to work independently, identify appropriate resources required for a project, and manage a project through to completion.

Multicultural competence: Possess knowledge of the values and beliefs of multiple cultures and a global perspective; and capability to effectively engage in a multicultural society and interact respectfully with diverse groups.

Moral and ethical awareness/reasoning: Ability to embrace moral/ethical values in conducting one's life, formulate a position/argument about an ethical issue from multiple perspectives, and use ethical practices in all work. Capable of demonstrating the ability to identify ethical issues related to one‟s work, avoid unethical behaviour such as fabrication,

falsification or misrepresentation of data or committing plagiarism, not adhering to intellectual property rights; appreciating environmental and sustainability issues; and adopting objective, unbiased and truthful actions in all aspects of work.

Leadership readiness/qualities: Capability for mapping out the tasks of a team or an organization, and setting direction, formulating an inspiring vision, building a team who can help achieve the vision, motivating and inspiring team members to engage with that vision, and using management skills to guide people to the right destination, in a smooth and efficient way.

Lifelong learning: Ability to acquire knowledge and skills, including „learning how to learn", that are necessary for participating in learning activities throughout life, through self-paced and self-directed learning aimed at personal development, meeting economic, social and cultural objectives, and adapting to changing trades and demands of work place through knowledge/skill development/reskilling.

(Graduate attributes - https://www.ugc.ac.in/pdfnews/4598476_LOCF-UG.pdf)

Program Outcomes (POs): They represent the knowledge, skills and attitudes the students should have at the end of a completion of undergraduate or postgraduate programme. The programme outcomes are aligned with the graduate attributes.

The institute has defined POs and PSOs and COs to ensure complete and comprehensive learning about programs and courses as these are critical for the future successful career of the student. The details of POs/PSOs and COs can be found on following link.

https://www.moderncollegegk.org/naac_criterion_II.php

Attainment of Course and Programme outcomes:

The college assesses the learning level of students by formative and summative methods following the guidelines of SPPU. The assessment of course outcome attainment is carried out by direct method. Direct assessment tools for theory courses are: Unit Tests, Tutorials, Quiz, and Assignments. The assessment of laboratory courses is based on performance, skills,

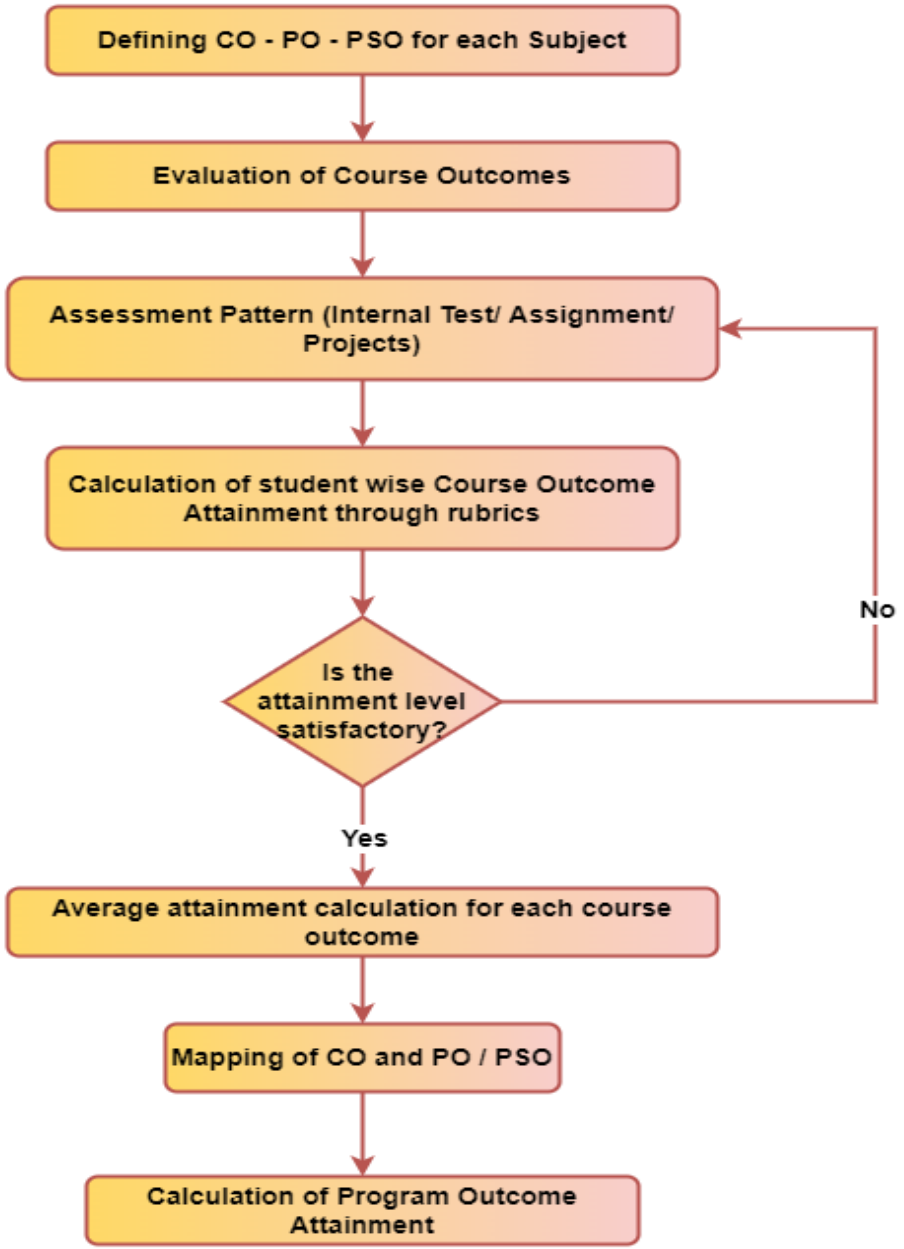
group activities, attendance, involvement, understanding, oral, journal writing and timely submission of assignments and seminars.
CO assessment for every course is carried out at individual student as well as class level.

Evaluation of CO-PO attainment

The first step involves design of assessments. The staff members plan types of assessments for evaluation of theory and practical courses. The questions asked or activities conducted for assessment are mapped with course outcomes as shown in the table below

	Marks assigned						
	Test1		**Test 2**		**Assignment 1**	**Assignment 2**	**Maximum marks**
	Q1	Q2	Q1	Q2	Q1	Q1	
CO1	5		5	-	-	-	10
CO2	-	5	-	-	-	5	10
CO3	-	-	-	5	5	-	10

Methodology of calculation of Course and Program Outcome Attainment



Calculation of CO attainment

The percentage of marks scored by students for every course outcome is calculated and the attainment level is computed using rubrics. Three levels are defined Low, Moderate and High attainment for direct assessment methods.

Level of CO attainment

Level	Percentage of marks
1 (Low)	Below 60%
2 (Moderate)	61-80%
3 (High)	81 to 100%

The marks scored by the students for a particular CO are calculated and percentage CO attainment is computed. The CO attainment level is calculated using the table given above.

Student	**CO1 %**	**CO1 attainment**	**CO2 %**	**CO2 attainment**	**CO3%**	**CO3 attainment**
S1	76	2	82	3	95	3
S2	45	1	56	1	65	2
S3	82	3	75	2	84	3
S4	81	3	72	2	85	3
Average		**2.25**		**2**		**2.75**

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CO-PO mapping

CO-PO mapping is done and the PO attainment for every course is calculated.

CO-PO Matrix		**PO1**	**PO2**	**PO3**	**PO4**	**PO5**
	CO1	3	2	-	-	-
	CO2	3	3	-	3	-
	CO3	-	-	-	1	-
PO attainment		**2.125**	**2.1**	**-**	**2.18**	-

Calculation of PO attainment: PO attainment for a course is calculated for programme is calculated using the CO-PO mapping using formula as given below

PO1 attainment = [(CO1*3) + (CO2*3)]/ ∑PO1 = [(2.25*3) + (2*3)]/3+3 =2.125

The programme attainment is computed from the attainment levels of all courses in the programme.