

FATIMA MATA NATIONAL COLLEGE

AUTONOMOUS

(Reaccredited with 'A' Grade by NAAC)
Affiliated to University of Kerala



2.6.2 Learning Outcome Measurement Mechanism at FATIMA

IQAC INTERNAL QUALITY ASSURANCE CELL

ATTAINMENT OF LEARNING OUTCOME: THE MECHANISM AT FATIMA

FATIMA follows Outcome Based Education. OBE is made possible by orienting curriculum, instructional methodology and assessment methods towards the attainment of learning outcomes-

1. The programme Outcomes (POs) are formulated at the College Level, and Programme Specific Outcomes (PSOs) and Course Outcomes (COs) are designed and finalized by the respective Board of Studies in sync with the POs. The attainment of learning outcomes at the end of each course is identified as per the Bloom's Taxonomy – Remembering, Understanding, Applying, Analyzing, Evaluating, Creating, Receiving, Responding, Valuing, Organization and Characterization.
2. The teaching-learning process at FATIMA is aimed at the attainment of the envisioned outcomes. The faculty use appropriate instructional strategies for eliciting the desired outcomes among the students-

Table 2.6.1: General Mechanism to Assess the Course Outcomes

Learning Objective		Application of Learning Objectives	
Bloom's Level	Key Verbs	Learning Outcomes	Methods used to measure the Learning Outcomes
Remembering	List, recite, outline, define, name, match, quote, recall, label, recognize.	By the end of the session, the student will be able to recite concepts/theories/ Quotes/formulae/ literary pieces	Students are asked to recall, the contents discussed, at the end of each class and at the beginning of next class. Definite number of

		being taught	questions are ensured at the Continuous Assessment Tests and End Semester Examinations.
Understanding	Describe, explain, paraphrase, restate, give original examples of, summarize, contrast, interpret, Identify, discuss.	By the end of the session, the student will be able to describe the main ideas of what is being taught	At the students are asked to summarize the most important aspects. Definite number of questions are ensured at the Continuous Assessment Tests and End Semester Examinations
Applying	Calculate, predict, apply, solve, illustrate, use, demonstrate, determine, model, perform, present.	By the end of the session, the student will be able to apply what she/he has conceived.	The students' ability to apply the main ideas is assessed by laboratory experiments, role plays, field visits, creative writing etc. Definite number of questions are ensured at the Continuous Assessment Tests and End Semester Examinations.
	Classify, break down,	By the end of the session, the	Attainment of analytical and interpretative skills

<p>Analyzing</p>	<p>categorize, reconstruct, compare, examine, group, organize, arrange research, inspect, analyze, diagram, illustrate, criticize, simplify, and associate.</p>	<p>student will be able to differentiate between concepts, items, and components of matters, and will accordingly, analyze, make associations, and write analytical paper comparing different aspects.</p>	<p>are assessed through Elocution, Quiz, Brainstorming sessions, Group Discussion, Debates etc.</p> <p>Definite number of questions are ensured at the Continuous Assessment Tests and End Semester Examinations</p>
<p>Evaluating</p>	<p>Appraise, criticize, debate, validate, conclude, Choose, support, relate, determine, defend, judge, grade, compare, contrast, argue, justify, support, convince,</p>	<p>By the end of the session, the student will be able to determine whether using a particular method would be more appropriate for solving a problem, validate an evaluation with empirical/ experimental evidence, and make judgement</p>	<p>Students' writing in response to an action or programme, either supporting or rejecting it on the basis of theoretical underpinning, and empirical/ experimental evidence/proof as well as personal opinion is assessed.</p> <p>Definite number of questions are ensured at</p>

	select, evaluate.	about the legitimacy of an action or programme	the Continuous Assessment Tests and End Semester Examinations
Creating	Design, formulate, build, invent, create, compose, compile generate, derive, modify, and develop.	By the end of the session, the student will be able to create a unique piece of writing/model/gadget/equipment/appliance, using theories/models/practical experiments.	Students' ability to integrate their theoretical/practical comprehension and writing/creating techniques into a new setting are assessed. Assignments, Class Room Seminars, Poster Designing, Making of Documentaries and Short Films, Manuscript Journals etc.

Table 2.6.2: Teaching- Learning Methods

In addition to the conventional lecture/story telling/explanation/instruction methods, the following teaching-Learning methods are used for attaining the proposed outcomes.

Department of Botany

- Field Visits
- Visits to Herbaria
- Visits to Research Institutes

- Campus Tree Labelling
- QR coding of campus plants
- Tissue Culture processing
- Classroom teaching using video contents
- Preparation of permanent microslides of plant parts
- Peer teaching
- Field projects at UG and PG level
- Utilization of Learning Management Systems MOODLE
- Herbaria preparation
- Internships
- Assignments
- Classroom Seminars

Department of Zoology

- Field Visits
- Field projects
- Classroom Seminars
- Industrial visits
- Visits on Research Institutes
- Peer Teaching
- Internships
- Bird watching
- Assignments
- Classroom Seminars
- Field projects at UG and PG level
- Utilization of Learning Management Systems MOODLE

Department of Physics

- Industrial visits
- Visits to Research Institutions
- Peer teaching
- Assignments

- Classroom presentations using ICT devices
- Field projects at UG and PG levels
- Preparation of Department Journal
- Paper Presentation Competitions
- Professors of the future
- Utilization of Learning Management Systems MOODLE

Department of Mathematics

- Peer group learning
- Classroom seminars
- Assignments
- Professors of Future
- Discussion
- Rubic's Cube Solving
- Newsletter
- Field projects at UG and PG level
- Utilization of Learning Management Systems MOODLE

Department of Chemistry

- Participative learning using Learning Management Systems
- Industrial visits
- Internships in industries
- Classroom teaching using video contents
- Visits on Research Institutes
- Peer teaching
- Filed projects
- Classroom Seminars
- Assignments
- Field projects at UG and PG level
- Utilization of Learning Management Systems MOODLE

Department of Psychology

- Brainstorming sessions
- Counselling sessions
- Assignments
- Classroom Seminars

Department of English

- Screening of videos, short films, films and documentaries
- Role plays
- Audio visual presentations
- Visits to newspaper units
- Group Discussions
- Debates
- Regular interaction with alumni
- Peer teaching
- Creative writing
- Brainstorming
- Counselling sessions
- Assignments
- Classroom Seminars
- Poster presentations
- Exhibitions
- Preparation of Journals
- Manuscript publications
- Case studies

Department of Malayalam

- Screening of videos, short films and documentaries
- Role plays
- Audio visual presentations
- Debates
- Group Discussions
- Quiz

- Elocution
- Manuscript publication
- Recitation
- Microteaching
- Visits to Newspaper Units
- Classroom seminars
- Professors of Future
- Assignments

Department of Hindi

- Group Discussion
- Interaction with peers
- Classroom seminars
- Writing competitions
- Creative writing

Department of French

- Classroom seminars
- Assignments
- Peer teaching
- Utilization of Learning Management System MOODLE
- Flipped classroom through modern means of communication
- Audio presentations of Native speakers

Department of Economics

- Seminars
- Workshops
- Debating
- Elocution
- Peer group Teaching
- Professors of the future
- Exhibitions
- Poster Designing

- Quiz
- Discussions
- Paper Presentation
- Field Visits
- Socioeconomic Surveys
- Video/Documentary Presentations
- Role Playing
- Simulations

Department of Commerce

- Field projects
- Industrial visits
- News Paper analysis
- Debate
- Professors of the Future
- Peer teaching
- Classroom presentations using ICT devices
- Participative learning using Learning Management Systems like MOODLE
- Seminars
- International Days' Celebration

Department of History

- Visits to historic places
- Peer teaching
- Discussions
- Quiz
- Poster designing
- Documentary making
- Assignments
- Classroom Seminars

3. Assessment of Outcome Attainment: The Mechanism for assessing COs and PSOs

The performance of the students is assessed based on the following criteria:

Table 2.6.3: Assessment for PG

Component	Maximum Marks	Maximum Weightage in %
Continuous Assessment	30	30
End Semester Examination	70	70
Total	100	100

Table 2.6.4: Assessment for UG

Component	Maximum Marks	Maximum Weightage in %
Continuous Assessment	25	25
End Semester Examination	75	75
Total	100	100

The learning outcome attainment is defined at five levels in ascending order, both for the Continuous Assessment and End Semester Examination.

Level-1	0.0 to 1.0	Very Poor
Level 2	1.1 to 2.0	Poor
Level 3	2.1 to 3.0	Moderate
Level 4	3.1 to 4.0	Good
Level 5	4.1 to 5.0	Very Good

The **CO attainment in PG** is measured by the formula:

CO Attainment = 70 % (Attainment Level in End Semester Examination) + 30 % (Attainment Level in Continuous Assessment).

For example:

Average marks in End Semester Examination = 39.6= i.e., = 40
Percentage of students scored more than 40 = 70 % (i.e., Level-3)
Average marks in Continuous Assessment = 18.4= i.e., = 19
Percentage of students scored more than 19 = 82 % (i.e., Level-3)
Therefore, the CO attainment = $3 (70/100) + 3 (30/100)$
= $2.1 + 0.9 = 3.0$

The **CO attainment in UG** is measured by the formula:

CO Attainment = 75 % (Attainment Level in End Semester Examination) + 25 % (Attainment Level in Continuous Assessment).

For example:

Average marks in End Semester Examination = 39.6= i.e., = 40
Percentage of students scored more than 40 = 70 % (i.e., Level-3)
Average marks in Continuous Assessment = 18.4= i.e., = 19
Percentage of students scored more than 19 = 82 % (i.e., Level-3)
Therefore, the CO attainment = $3 (75/100) + 3 (25/100)$
= $2.25 + 0.75 = 3.0$

The PSO attainment is calculated by the formula:

PSO Attainment = 80 % (Average Attainment Level by Direct Method) + 20 % (Average Attainment Level by Indirect Method)

Direct Method involves the calculation of average course outcomes that contribute to the PSOs.

Indirect Method involves data from feedback survey of stakeholders.

For example:

If a programme is having 5 courses,

Average CO Attainment Level = $(3+3+2.2+2+1.4)/5 = 11.6/5 = 2.32$

Feedback level of the programme is 3.

Then, the attainment level of PSOs = $2.32 (80/100) + 3 (20/100) = 1.86 + 0.6 = 2.46$

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