

## **DEPARTMENT OF BIOCHEMISTRY INNOVATIVE TEACHING PROGRAMMES**

The faculty has implemented innovative teaching methods after attending faculty recharging programs and FDP. These have helped to improve learning experience of the students.

Approach;

- Lectures with discussion, Video assisted learning, Class discussion, Interactive sessions, Micro teaching, Journal club, Students seminar, circulate assignments, lecture notes and other relevant materials to the students, Practical demonstrations by students, surprise short answer written tests as part of day to day assessment, Small group discussions, short seminar, Case report discussions as clinical modules for Pre-clinical teaching, MCQ based learning Assignment, Match the followings, Hospital diagnostic lab visits, Interpretation of reports in diagnostic lab and Open Book Test
- Updating with clinically relevant spotters
- Blue book continuous evaluation- is conducted on completion of a topic, this helps to evaluate slow and advanced learners
- Log book- day to day performance of the students including research activities is maintained in the log book.

Details are available in Teaching schedule/ teaching diary

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## LIST OF INNOVATIVE TEACHING-LEARNING PROGRAMMES

### 1. UNDERGRADUATE STUDENTS

SL.NO	METHODOLOGY	OBJECTIVES	DESCRIPTION	TERM OF STUDENTS INVOLVED
1.	INTEGRATED TEACHING AT BEDSIDE CLINICS	To unify the knowledge acquired of basic sciences with the clinical medicine.	Students are allotted a topic from basic science subject and asked to make a presentation which is moderated by a faculty. Following this a clinical case is discussed pertaining to the topic discussed.	3 <sup>rd</sup> term
2.	BLENDED LEARNING IN MUSEUM	To utilize the modern audio-visual aids as teaching learning methods to promote learning.	Modern audio-visual systems are utilized for teaching students. Displaying the educational videos and clinical examination methods to make teaching more impactful.	4 <sup>th</sup> term to 9 <sup>th</sup> term
3.	PROBLEM BASED LEARNING	To promote problem based approach to a clinical trigger to enhance learning	PBL sessions are conducted once in 3 months on various clinical topics.	7 <sup>th</sup> – 9 <sup>th</sup> term
4.	OUT PATIENT DEPARTMENT TEACHING	To encourage students to participate in the OPD so that they can learn the practical aspects of clinical teaching.	Students are posted to OPDs where they take brief clinical history and perform examinations followed by a brief discussion by faculty.	9 <sup>th</sup> term.
5.	TRAINING IN SKILLS LAB	To teach the clinical medicine using various	Students are posted to Skills lab in advanced learning centre where	4 <sup>th</sup> , 5 <sup>th</sup> and 5 <sup>th</sup> term to

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		artificial intelligence methodologies.	they learn the psychomotor skills using mannequins, student auscultation devices.	8 <sup>th</sup> term.
6	SMALL GROUP DISCUSSION	To conduct focussed Bedside teachings in small groups.	Students in small group of 6 are posted to all medical units where the students participate in the rounds and learn bedside skills , attitude and communication from the faculty	9 th term

### INNOVATIVE TEACHING LEARNING FOR INTERNS

1	INTERNS TEACHING PROGRAMME	To train the interns in patient care and medical emergencies	Interns are trained in the following area 1. Identifying and managing common clinical problems. 2. Interpretation of ECG , ABG , Chest xrays 3. Management of Diabetes, Hypertension, Dyslipidemia. 4. Management of Poisonings , snake bites. 5. Management of common emergencies like status asthmatics , status epilepticus, Hypertensive emergencies etc. Interns are asked to do a presentation and are moderated by faculty.	Interns posted in department of Medicine.
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### INNOVATIVE TEACHING PROGRAMME FOR POST GRADUATE STUDENTS

1	EVIDENCE BASED MEDICINE	To encourage post graduate students	Post graduate students are allotted few clinical	2 <sup>nd</sup> and 3 <sup>rd</sup> PG
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		to learn approach medical issues using high quality evidences.	questions and the students search high quality evidences regarding the questions and present in the seminar. Such sessions are conducted once a month. Some examples are- 1. Usage of Metformin in Gestational Diabetes. 2. Association of Hydrochlororthiazide and malignancies. 3. Role of statins in primary prevention of cardio-vascular diseases.	students.
2.	INTERESTING INVESTIGATION	To appraise the PG students regarding new investigations used in Medicine.	PG students are encouraged to make a presented regarding interesting ECGs , Chest Xrays , CT scans , ABGs, PFT, EMG , NCS in the PG seminars. Any newer investigations are discussed in PG seminars. Such sessions are conducted once a month	1 <sup>st</sup> and 2 <sup>nd</sup> yr PGs.
3	Weekly case sheet submission	To encourage PG students to take clinical cases and write a complete case sheets.	All the PG students are encouraged to examine interesting cases getting admitted and write a complete case sheet. This will help them improve their clinical skills. PG students have to submit atleast 10 case sheets once in week. These are corrected by faculty and a feedback is given.	All PGs
4	Weekly internal assessments	A formative assessment for PG students.	There is a formative assessment every week for final year PG students. Assessment pertaining to one topic is allotted once a week.	3 <sup>rd</sup> yr PG

Med 9/20

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Innovative teaching/ learning programme list

2.3.5.1.

Mini-clinix:

1. The interaction of the student with the patient is recorded and observed by the teacher.
2. The clipping is then reviewed by both the student and teacher.
3. The gaps are then discussed and strategies to improve the same are also discussed.

OSCE(Objective Structured Clinical examination):

1. It assesses competency, based on objective testing through direct observation.
2. To evaluate areas such as communication skills and ability to handle unpredictable patient behavior.
3. It is comprised of several "stations" in which students are expected to perform a variety of clinical tasks within a specified time period against criteria formulated to the clinical skill, thus demonstrating competency of skills and/or attitudes.

Ask open ended questions:

Open-ended questions are questions without textbook answers. When teachers ask open-ended questions, there can be various answers and points of view. Student answers can lead to exciting conversations, new ideas, as well as encourage leadership skills.

Role play :

**Role-play** is a technique that allows students to explore realistic situations by interacting with other people in a managed way in order to develop experience and trial different strategies in a supported environment. Depending on the intention of the activity, participants might be playing a role similar to their own (or their likely one in the future) or could play the opposite part of the conversation or interaction. Both options provide the possibility of significant learning, with the former allowing experience to be gained and the latter encouraging the student to develop an understanding of the situation from the 'opposite' point of view.

Problem finding:

Problem-finding requires an intellectual and imaginative vision to seek out what might be missing or should be added to something important. Using this strategy, teachers can provide students with the opportunity to think deeply, ask critical questions and apply creative ways to solve problems.

Learning from errors:

Students need to experience failure to learn.

When teachers provide real-world projects that give students problems to solve, they are offering a platform for students to learn from failure, step up again and again to eventually find success.

Med 4/20

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### **Flipped Classroom Model**

When teachers use a flipped classroom model, the traditional order of teaching and classroom events are reversed. Typically, students can view lecture materials, read text, or do research as their homework prior to coming into class. The time spent in class is reserved for activities that can include peer-to-peer learning, group discussions, independent learning, as well as engaging discussions or collaborative work.

### **Design-Thinking Process**

The design thinking process is a set of structured strategies that identify challenges, gather information, generate potential solutions, refine ideas, and test solutions.

