

Gas Chromatography

Instructor: Dr. Tariq Ali

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Location:

4/5 Rimpa Plaza,
M.A. Jinnah Rd.
Karachi, Pakistan

Course Fees: Rs. 10,500

Course Description:

After successful completion of this course students will have a better understanding of the GC system and its parameters. The topics will cover each aspect of the instrument in three parts, its functionality, the laws of chemistry in play, and most importantly the maintenance and trouble shooting of each part as a whole to bring improvement of consistent results, and ensure the instrument is functioning in a proper manner.

Text: Will be provided at the time of fees collection

Course outline:

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GC (GAS CHROMATOGRAPHY)

1. BASIC PRINCIPLES OF GC (chemistry aspect)

- INTRODUCTION
- HISTORY
- SCOPE OF GC (advantages\disadvantages)
- CARRIER GASES
- INJECTORS
- COLUMNS
- DETECTORS
- DATA PROCESSING

2. INSTRUMENTATION (Hardware aspects)

- CARRIER GASES
- TRAPS
- FLOW CONTROLS
- HEATING ZONES OF GC
- INJECTION PORTS

- COLOUMS
- DETECTORS
- DATA PROCESSING

3. OPERATIONAL PRECAUTIONS (maintenance)

- GASES
- FLOW CONTROLS
- INJECTION PORTS
- COLUMNS
- DETECTORS

4. TROUBLESHOOTING

- Strategy to find out problem
- Troubleshooting related to instrument
- Troubleshooting related to chromatogram
- Strategies for best possible outcomes.

Course Mechanics/Schedule:

Lecture sessions:

This course consists of six lecture sessions, each being four hours long.

Practical sessions:

After the first lecture the whole batch will be taken into the lab for a preliminary lab session. Then students will be divided into equal groups and will be appointed a date where they will perform hands on tasks (runs) in the lab.

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
9:00-10:00						
10:00-11:00	Lec 1	Lec 3	Lec 4	Lec 5	Lec 6	Lab group 5
11:00-12:00						
12:00-1:00	Lunch Break	Lurch Break	Lunch Break	Lunch Break	Lunch Break	Lunch break
1:00-2:00						
2:00-3:00	Lec 2	Lab Group 1	Lab Group 2	Lab Group 3	Lab group 4	Lab group 6 (optional)
3:00-4:00						
4:00-5:00	Lab 1 (intro)					

Additional Information:

*tea and lunch will be complementary throughout the course