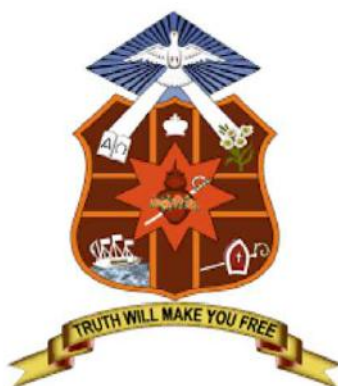


DEVA MATHA COLLEGE KURAVILANGAD

Affiliated to Mahatma Gandhi University, Kottayam



SYLLABUS

OF

ADD-ON COURSE

IN

Basic Laboratory Skills and Safety

Academic Year: 2022-23



DEVA MATHA COLLEGE KURAVILANGAD

DEPARTMENT OF CHEMISTRY

Add on Courses offered for Students : 2022-2023

**Basics Laboratory Skills and Safety
DMCK/CHEM/AD 02/2022**

Department Coordinator: Dr. Deepthi John



Title: Basic Laboratory Skills and Safety

Instructional Hours: 30

Duration: 6 months

Mode of Instruction: Online and Classroom teaching with practical session

Intake Capacity: 50

Eligibility: UG/PG students from Science stream

DEVA MATHA COLLEGE KURAVILANGAD

ADD-ON COURSE FOR THE AY 2022-23

Course Objectives

1. To equip students with the skills required to succeed in the chemical industry and professional laboratories.
2. To cultivate Professional Ethical conduct
3. To prepare students for entry into a post-graduate program in chemistry/Applied Chemistry required for chemical analysis or related fields in industries as well as in laboratories
4. The Candidate after completing the course under this Course must be competent to manage a Laboratory following all good practices and sticking to all Laboratory safety practices etc.
5. To improve the proficiency in using instruments commonly found in modern chemical laboratories and also impart them the ability to interpret the data obtained from these instruments
6. To educate the students with basic computer programs commonly used in scientific works.

Module 01- Good Laboratory Practises-10 hr

Laboratory procedures in general, Time management in analysis, Examples of good Lab Practices, Problem solving, Team work and communication skills

Module 02 – Laboratory Safety-10 hr

Safety methods of different analysis, Fire Extinguisher Training, Electrical and Electronic safety, Chemical safety, Safe tips for conducting practical in chemistry, how to avoid chemical accidents.

Module 03- Practical session using Advanced Analytic Instruments-10 hr

Hands on expertise in sophisticated Instruments like pH meter, conductivity meter, UV-Vis spectrophotometer, AAS, IR (any three) Basic computer programs commonly used in scientific works (Chems sketch, Origin/Excel)

Industrial exposure by arranging Industrial visits in/out of Kerala

References

1. Chemical Process Safety: Fundamentals with Applications (3rd Ed.), Daniel A Crawl, Pearson, India
2. CRC Handbook of Laboratory Safety, Furr A K, Taylor & Francis Excl. Spl Reprint
3. Instrumental methods of analysis (7th Ed.), Willard, H. H., Merritt, L. L., Jr., Dean, J. A., and Settle., F. A., Jr. (1988). Belmont, CA: Wadsworth.
4. Introduction to Instrumental analysis, Braun, R. D. (1987. New York, NY: McGraw-Hill.
5. Fundamentals of analytical chemistry(9th Ed.), Skoog, Douglas A.; West, Donald M., Belmont CA, Brooks/Cole, Cengage Learning
6. Analytical chemistry (6th Ed.), Gary D Chirstin, Wiley

Assessment Procedure: The add on course shall carry 100 marks with 30% Continuous Assessment (equal weightage to Assignment, practical examination and viva voce) and 70% written examination of 1.5 hours duration.

Grading

The percentage of marks obtained by a candidate in a course will be indicated in a letter grade. Evaluation of the performance of the student will be rated as shown in the Table.

Letter Grade	Marks %
S	90 and above
A	80-89
B	70-79
C	60-69
D	55-59
E	50-54
RA(Reappearance)	> 50
W	Withdrawn from the examination



Anand Das
Principal
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