



Code	Subject Title	Cr. Hrs	Semester
CHEM-307	Analytical Chemistry	4	V
Year	Discipline		
3	Chemistry-I, II		

SYLLABUS OUTLINE:**1. Introduction / Assessment of Analytical Data**

Introduction and scope of Analytical Chemistry: Analytical problems and their solutions; The nature of analytical methods; trends in analytical methods; Different units of concentration and their conversion; Definition and basic concepts: nature and origin of errors, Classification of errors; Accuracy and Precision; Limits of detection, Confidence limits; Deviation, Standard deviation, Application of statistical tests; Rounding off analytical data; Quality control charts; Computation of analytical data. Significance of sampling, weighing and measuring in Analytical chemistry.

2. Basic Chromatography Techniques

Classifications of Chromatographic Techniques, Paper and Thin Layer Chromatographic Techniques; their instrumentation, applications and limitations, Column Adsorption Chromatography,

3. Introduction to Spectroscopy / Spectrophotometry

Introduction to Molecular spectroscopy, absorption in UV and Visible range; Basic principle of Spectrophotometry; Beer-Lambert's law; Deviations; Instrumentation and application.

RECOMMENDED BOOKS:

1. Analytical Chemistry by J.D. Dick, McGraw Hill, 1973, N.Y. also available in International students edition McGraw Hill, Mogakusha, 1973.
2. Instrumental Methods by W.Ewing, Mc Graw Hill Book Co. N.Y. (Third/Fourth Edition) also available in International students edition.
3. Chromatography by R.K Sharma , Gogel publishing home meerret
4. Introduction to chromatography by Nasir-ud-din, Published by author
5. Paper chromatography by Dr.Friedrich Cramer, London Macmillan and Co Ltd
6. Thin- layer chromatography by Marini, Elsevier publisher
7. Modern analytical chemistry by David Harvey, Roohani-art press, Islamabad
8. Principle and Practice of analytical chemistry by Fillfield, Blackwell Science Ltd
9. Spectroscopy by Browing, Mcgram Hill London
10. Fundamentals of Chromatography by H.G. Cassidy, Inter Science Publisher, London, N.Y.
11. Fundamentals of Analytical Chemistry by Doughlas Skoog and Donals M. W. West, Holt Reinchart and Inc, London.