University of Al-Anbar
College of Pharmacy
Department of Pharmaceutical Chemistry
Title of the course: ***Analytical Chemistry*** Course number: **113**
Level: 1st Class, 1st Semester
Credit hours: **Theory 3 hours** **Laboratory 1 hour**
Tutors:
Reference text: ***Fundamentals of Analytical Chemistry by Stook and West.***

Objectives: To provide students with a sound theoretical back ground in chemical principles that is essential to practice chemical analysis. It enables students to understand the importance of judging the accuracy and precision of experimental data and techniques of quantitative analysis, and also to show that theory frequently serves as a useful guide to the solution of analytical problems.

No	Lecture title	hours
1.	Review of elementary concept important to analytical chemistry: Strong and weak electrolytes; important weight and concentration units.	4
2.	The evaluation of analytical data: Definition of terms.	1
3.	An introduction to gravimetric analysis: Statistical analysis of data; rejection of data; precipitation methods; gravimetric factor.	9
4.	The scope of applications of gravimetric analysis: Inorganic precipitating agents; organic precipitating agents.	4
5.	An introduction to volumetric methods of analysis: Volumetric calculations; acid-base equilibria and pH calculations.	5
6.	Buffer solutions: Theory of neutralization titrations of simple system.	3
7.	Theory of neutralization titrations of complex system; Precipitation titrations.	5
8.	Calculation of pH in complex system; Volumetric methods based on complex system.	4
9.	Equilibria in oxidation-reduction system; theory of oxidation-reduction titrations.	6
10.	Spectrophotometric analysis: An introduction to optical methods of analysis; Methods based on absorption of radiation.	4