



كلية : التربية للعلوم الصرفة

القسم او الفرع : علوم الحياة

المرحلة: الاولى

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اسم المادة باللغة العربية : كيمياء تحليلية

اسم المادة باللغة الإنكليزية : **Analytical Chemistry**

اسم المحاضرة الأولى باللغة العربية: مقدمة عن الكيمياء التحليلية

اسم المحاضرة الأولى باللغة الإنكليزية : **Introduction**

## ***Introduction:***

Analytical chemistry deals with methods for the identification of one or more of the components in a sample of matter and the determination of the relative amounts of each. The identification process is called a qualitative analysis while the determination of amount is termed a quantitative analysis. We will deal largely with the latter.

The results of a quantitative analysis are expressed in such relative terms as the percent of the analyst (the substance being determined) in the sample, the parts of analyst per thousand, per million, or even per billion parts of sample, the grams or milliliters of analyst per liter of sample, or the mole fraction of the analyst in the sample.

Most quantitative analytical measurements are performed on solutions of the sample, therefore the study of analytical chemistry makes use of solution concepts with which the student should have considerable familiarity.

Quantitative analysis is classified into two types of analysis:

**1- Volumetric analysis,**

Which concentrates on the exact volume measurement of the solution during titration. The volumetric methods of analysis include acid-base titration, precipitation titration, oxidation-reduction titration, and complex formation titration.

**2- Gravimetric analysis,**

which based upon the measurement of the weight of a substance of known composition that is chemically

related to the analyst. There are two types of gravimetric analysis, precipitation methods and volatilization method.