Course Specifications

Subject: Analytical Chemistry-1

Subject Code: 602

University: Beni-Suef **Faculty:** Pharmacy

Program in which the course is given: Bachelor of Pharmaceutical Sciences

Department responsible for offering the course: Department of Pharmaceutical Analytical Chemistry

Department responsible for teaching the course: Department of Pharmaceutical Analytical Chemistry

Academic year: First Year, First Semester

A- Basic information

Title: Analytical Chemistry-1 **Code:** 602

Credit hours (# of credit hours/week):

Lecture (2) hour + Practical (1) hour = Total (3) hour

Course Coordinators:

- Ass. Prof. Dr. Nouruddin W. Ali
- Dr. Ibrahim Ahmed Naguib
- Dr. Nehal Fayek
- Dr. Eglal Abdelhamid
- Dr. Maha Mohamed

B- Professional information

1. Overall Aim of the Course

After completion of this course, student should gain several competencies in areas of qualitative inorganic analytical chemistry and gravimetric analysis that would enable him/her to work upon graduation in different related fields of analysis (forensic chemistry, water analysis, and environmental analysis ….etc.)

2. Intended Learning Outcomes of the course (ILOs)

a. Knowledge and understanding

a.1. demonstrate comprehensive and detailed knowledge and full understanding of qualitative inorganic analysis and chemical reactions involved.

a.2. demonstrate comprehensive and detailed knowledge and full understanding of methods of separation and identification of anions and cations.

a.3. demonstrate comprehensive and detailed knowledge and full understanding of gravimetric analysis

b. Intellectual Skills

b.1. design a suitable scheme for systematic identification of anions and cations when present individually in simple mixtures.

b.2. design a suitable scheme for systematic separation and identification of cations and anions when present in special admixtures producing difficulties.

b.3. select suitable methods for gravimetric determination of inorganic compounds.

c. Professional and Practical Skills

c.1. apply the given schemes for separation and identification of anions and cations.

c.2. adopt gravimetric methods of analysis for the determination of concentration of certain inorganic compounds

d. General and Transferable Skills

Communication:

d.1. learn to communicate orally with others (lecturer , instructor, colleagues)

d.2. Handle poisonous chemicals properly and avoid their hazards

IT Skills:

d.3. learn how to search for a certain point related to one of the topics given during the course

Group working:

d.4. learn how to work as part of a team for solving the problem ahead of them

Self-learning:

d.5. develop problem solving skills

d.6. proper use of centrifuge instruments in addition to other glass wares

3. Course Contents

Topics actually taught	No. of hours	Lectures	Tutorial /practical
Systematic examination of anions	12	6	6
Systematic examination of cations	12	6	6
Gravimetric analysis	4	2	1
Total	28	14	13

4. Teaching and learning Methods

Lectures
Practical training in laboratory
Class activity
In class quizzes
Take home assignments

5. Student Assessment Methods

a. **Practical exam** to assess professional and practical skills
b. **Periodic exams** to assess understanding and intellectual skills
c. **Written exam** to assess knowledge, understanding and intellectual skills
d. **Oral exam** to assess knowledge, understanding and intellectual skills

Assessment Schedule

Assessment No.	Method of Assessment	Week
Assessment 1	**Periodic exams**	**--------**
Assessment 2	**Practical exam 1**	**4-5**
Assessment 3	**Practical exam 2**	**11-12**
Assessment 4	**Final written exam**	**14-16***
Assessment 5	**Oral exam**	**14-16***

Weighting of Assessment

Type of Assessment	Marks	Weight (%)
Periodic and practical exams	50	**34**
Final written exam	80	**53**
Oral exam	20	**13**
Total	150	**100**

6-List of References

a. **Course notes:** prepared by staff members of the teaching department.
b. **Essential Books (text books):**
   - Vogel's textbook of Qualitative Inorganic Analysis &Vogel's textbook of Quantitative Chemical Analysis, 7th edition. 2004, J. Mendham, R.C. Demy, J. D. Barnes, M. J. Thomas
   - Modern Inorganic Chemistry, S. Chand & Company, 2nd ed., 2002, R. D. Madan
c. **Periodicals, websites, etc….. :**
   www.chemweb.com
   www.chemistry.com

All these textbooks are available in the library of the faculty of Pharmacy-Beni-SeuifUniversity.

7-Facilities required for teaching and learning

- Lecture hall containing white board, white screen, overhead projector, and computer aided with data show.
- Laboratories provided with the proper equipments (thermodynamically controlled oven, muffle furnaces, electronic balances, centrifuges, glassware) and chemicals.

Head of department: Ass. Prof. Dr. Nouruddin W. Ali

Date: 15/9/2015