

## CHEM1.6: PRACTICAL CHEMISTRY

### I. Course description:

1. **Credit points:** 2 ECTS

2. **Time commitment:**

| Items        | Lecture | Tutorial | Practical | Total     |
|--------------|---------|----------|-----------|-----------|
| No. of hours | 3       | 0        | 21        | <b>24</b> |

3. **Prerequisites:** General Chemistry I, II and Organic Chemistry I

4. **Recommended background knowledge:** N/A

5. **Subject description:**

This short (24 hour) course provides first-year students with the basic chemistry laboratory skills they will need before embarking on more specialist experiments offered at the 2nd-year level. The emphasis of the course is on general experimental procedures that can be carried over to all branches of chemistry, with particular emphasis placed on communicating scientific experimental results in the form of written reports.

6. **Objectives & Outcome:**

Students will learn how to:

- work safely in a chemistry laboratory;
- handle potential hazardous chemical reagents;
- handle basic chemistry laboratory glassware and other equipment;
- collect data/observations on designated variables without previously studying the relationship between variables. Students are also guided to the logical organization, comparison, analysis, and interpretation of data.
- write experimental reports.

7. **Assessment/ Evaluation:**

| Component    | Attendance + Homeworks | Practical Exercises | Assignments | Practical | Midterm | Final |
|--------------|------------------------|---------------------|-------------|-----------|---------|-------|
| Percentage % | 10                     | 90                  | 0           | 0         | 0       | 0     |

8. **Prescribed Textbook(s):** 1<sup>st</sup> year Practical Chemistry for USTH Student

### II. Course content & schedule:

- 1 Gravimetric analysis of a compound

- 2 Vinegar Analysis
- 3 Copper Sulfate Crystallization
- 4 General Chromatography
- 5 Galvanic Cell
- 6 Organic Compound Synthesis

**III. Reference Literature:**

- [1]. 1st year Practical Chemistry for USTH Student
- [2]. Experiments in General Chemistry 2nd Edition, B. Stanton et al.
- [3]. Laboratory Manual for Principles of General Chemistry 9th Edition, J.A.Beran et al.
- [4]. Safety-Scale Laboratory Experiments for Chemistry for Today 7th Edition, S. L. Seager