

ANALYSIS OF REAL SAMPLE

Program	BSc in chemistry					
Module Name	Applied Chemistry					
Module Number	11					
Module code	Chem-M3111					
Course Title	Analysis of Real Sample					
Course Code	Chem3118					
Prerequisite	Chem2053 & Chem2054					
Module coordinator's name and address	TBA					
Instructor(s) name and address	TBA					
Lecture days, Hours & room	TBA					
Cr. Hrs/ ECTS	2/3					
Work load (per week)	Lecture	Tutorial	Lab.	Home study	Assessment	Total
	9	----	84	24	3	120
Target group	3 rd year chemistry students					
Semester	Semester II					
Mode of delivery	Semester based					
Status of the course	Core Compulsory					

Course Description

Systematic analysis of real samples: sampling, preservation and preparation of samples for the determination of the major, trace elements, inorganic compounds (speciation) and organic compounds; biological samples; food and beverages; water and waste water samples; soils and related samples.

Learning Outcomes

By the end of this course students should be able to:

- Select appropriate sampling and preservation of a particular real sample
- Identify preparation methods for analysis of metals by different methods
- Perform experiments on water, soil and air
- Familiarize the students with the techniques of sampling, storage, and analysis of real samples.

Course Outline and Schedule

Week	Contents	Method of teaching	Student activity	Readings
1 st & 2 nd	Systematic analysis of real samples	<ul style="list-style-type: none"> • Practical laboratory experiments, • Questioning • Presentation • Discussion 	<ul style="list-style-type: none"> • Collecting real samples • Sample preparations • Observation writing • Listening and observing demonstration • Doing practical work • Analysis of observations • Ask questions on unclear idea • Active participation in discussion 	To be designated at commencement of the course.
3 rd - 5 th	Sampling, preservation and preparation of samples for the determination of the major, trace elements, inorganic compounds (speciation) and organic compounds	<ul style="list-style-type: none"> • Practical laboratory experiments, • Questioning • Presentation • Discussions • Presentation 	<ul style="list-style-type: none"> • Collecting real samples • Sample preparations • Observation writing • Listening and observing demonstration • Doing practical work • Analysis of observations • Ask questions on unclear idea • Active participation in discussion 	To be designated at commencement of the course.
6 th & 7 th	Biological samples	<ul style="list-style-type: none"> • Practical laboratory experiments, • Laboratory data analysis • Presentations • Questioning • Discussions 	<ul style="list-style-type: none"> • Collecting real samples • Preservations of samples • Sample preparations • Observation writing • Listening and observing demonstration • Doing practical work • Analysis of observations • Ask questions on unclear idea • Active participation in discussion 	To be designated at commencement of the course.

8 th & 9 th	Food and beverages samples	<ul style="list-style-type: none"> • Practical laboratory experiments, • Questioning, Report writing 	<ul style="list-style-type: none"> • Collecting real samples • Preservations of samples • Sample preparations • Observation writing • Listening and observing demonstration • Doing practical work • Analysis of observations • Ask questions on unclear idea • Active participation in discussion 	To be designated at commencement of the course.
10 th & 11 th	Water and waste water samples	<ul style="list-style-type: none"> • Practical laboratory experiments, • Questioning, Report writing 	<ul style="list-style-type: none"> • Collecting real samples • Preservations of samples • Sample preparations • Observation writing • Listening and observing demonstration • Doing practical work • Analysis of observations • Ask questions on unclear idea • Active participation in discussion 	To be designated at commencement of the course.
12 th & 13 th	Soils and related samples	<ul style="list-style-type: none"> • Practical laboratory experiments, • Questioning, Report writing 	<ul style="list-style-type: none"> • Collecting real samples • Preservations of samples • Sample preparations • Observation writing • Listening and observing demonstration • Doing practical work • Analysis of observations • Ask questions on unclear idea • Active participation in discussion 	To be designated at commencement of the course.
14 th and 15 th	Project work (20%)			

Mode of Assessment

Type	Description	%	Assessment Date
Practical/Skills Evaluation	individual/group performance, and flow chart	10	Every Week
Individual Laboratory Performance	Practical examination	20	Week 10
Experiment Reports	Written report after each laboratory work	30	Every Week
Written Examinations	Exam at the end of the laboratory work	40	At the end of the Lab

Course Policy

Beside the university's policy on course delivery and evaluation, students are expected to actively participate in learning process by obeying the following course policies:

- Keep all laboratory safety rules
- Keep good hygiene practices
- Submit laboratory report for every experiments on time
- Do not miss laboratory sessions unless you are forced due to health and other reasonable problems
- Be prepared to learn and actively participate in laboratory works
- Come with lab manual and flow chart
- Wear proper dress