Module Code	21349054	Course Term
Course Subject Name	**Analytical Chemistry**	Autumn The 1st Semester
Course Tutor	**Douglas Drummond**	
Credit	2	Taught Day
Schools	School of Agriculture	TUE-2
Taught Year	The 2nd year	
Campus	Ito campus	
Subject Area	Lecture	
Course Subject Classification	Common Basic Subjects	Tuesday, 2nd period (10:30-12:00)
Course Requirements		
Course Requirement (Pre-requisite)	Basic knowledge of chemistry	

Course Outline

This course provides students with an introduction to the basic principles of quantitative analytical chemistry.
The course will cover theoretical principles and selected applications including classical and instrument based analytical techniques.

key words

Analytical Chemistry equilibrium Titration spectrophotometry

Study Objectives (General)

To learn the fundamental principles of analytical chemistry and its practical applications.

Study Objectives (Specific) The course aims to achieve the following:

To understand and be able to apply the fundamental principles of analytical chemistry.
To learn common classical and instrumentation methods used for elemental and compound analysis.
To demonstrate the ability to apply the analytical approach to the solution of problems in chemical analysis.

Course Plan

Weekly schedule (may be subject to revision)
1. Analytical chemistry and measurements
2. Chemical equilibrium (Quiz: treatment of errors)
3. Acids and Bases
4. Acid- Base Titrations
5. Complexometric titration (Quiz: acid and bases)
6. Gravimetric analysis
7. Exam (lectures 1 - 8)
8. Gravimetric analysis, Precipitation reactions and Titration
9. Fundamentals of Electrochemistry
10. Potentiometry
11. Redox titrations
12. Fundamentals of Spectrophotometry (Quiz: electrochemistry, potentiometry and redox)
13. Analytical separations I
14. Analytical separations II
15. Sample preparation and quality assurance
16. (Final exam: whole course)

Course Approaches	Lectures and problem solving exercises.
Textbooks	Quantitative Chemical Analysis, 8th ed.(2010) by Daniel Harris Fundamentals of Analytical Chemistry, 8th ed. (2004) bySkoog, West, Holler and Crouch
Reference Books	
Study consultation (office hour)	Office: Rm.679, WEST ZONE 5, Faculty of Agriculture, Kyushu University Ito Campus Office Hours: 9:00-18:00 Email: d.drummond@agr.kyushu-u.ac.jp Phone: (092)-802-4768
Exams/Results Evaluation Method	Class participation 5% short quizes 15% exams 80%
Others	A minimum of 80% attendance is mandatary