CHM 105: Introduction to Chemistry
Lab (1 Credit)

Instructor: Dr. Andy Crofts **Email: acrofts@aiu.ac.jp**
Office: A3-11 **Office Hours: Weds 15:00-18:00**

Spring 2010

CHM 105-1	(Wed) 9:30-11:30	**1st Lab**	1 Field Trip - TBA
CHM 105-2	(Wed) 13:00-15:00	**1st Lab**	1 Field Trip - TBA

This lab class (CHM 105) is designed to be complementary to the lecture course (CHM 100) and you are strongly recommended to take both courses at the same time.

Course Description:

The **CHM 105 lab class** is designed to demonstrate experimentally many of the concepts covered by CHM 100. A total of nine lab classes (averaging 2hours each) will be given. Due to the potential hazards of designing your own chemistry experiments, the range of freedom given in this area will be necessarily limited. However, at the same time, the experiments you will perform in the lab may not always be typical of those found in a course like this. Many of the labs will reinforce the importance of Chemistry in our daily lives.

Objectives:

Through this course, you will gain practical knowledge about the experimental nature of Chemistry and develop your critical thinking skills. Through the planned field trip you will better appreciate the magnitude of industrial Chemistry.

Study Materials: Course textbook (recommended and available on Campus)
Introductory Chemistry: A Foundation, 7th Edition
Zumdahl and DeCoste
ISBN-13: 978-0-538-73543-8 (International Edition)

This textbook will be bundled with an OWL (Online Web Learning) access code so you can access multimedia materials from the textbook companion site and improve and test your knowledge by doing assigned homework.

Course materials including lab handouts and links to important resources will be made available on the **Introduction to Chemistry** - **Lab Class** course page on the AIMS website (http://aims.aiu.ac.jp/aims). Please check this site and your email account regularly for updates on lab and field scheduling and content.

Assessment:

You will be assessed on your participation in the lab and on the content of 10 written reports (of varying format), each describing the experiments performed in the nine laboratory classes or knowledge acquired during the field trip. An example lab report will be provided together with grading criteria during the first lab class on Wednesday 14th April.

Lab reports	(9 total)	80 %
Field trip report		20%
Total		100 %

Grade boundaries (%)*:

A+:	100	
A:	95-99	Excellent
A-:	90-94	
B+:	87-89	
B:	83-86	Good
B-:	80-82	
C+:	77-79	
C:	73-76	Satisfactory
C-:	70-72	
D+:	66-69	
D:	60-65	Poor
F:	59 % or lower	Failure

* If required, exam scores will be adjusted appropriately to reflect difficulty.

Expected Academic Background:

The introductory nature of this course means that there are no formal pre-requisites in terms of maths and science. However, if you have a strong aversion to even simple calculations, then this may not be the course for you.

If possible you should take the Introduction to Chemistry lecture course (CHM 100) in the same semester as this lab class as it will help provide the necessary academic knowledge for you to understand the experiments you will perform.

CHM 105: Introduction to Chemistry – Lab Class

Topic*	Date
1. Matter: Why it matters	04/14/10
2. Chemical reactions	05/12/10
3. Food chemistry: the energy in our food	05/19/10
4. Endothermic and Exothermic reactions	06/02/10
5. DNA: A chemical for life	06/09/10
6. States of matter: solids, liquids and gases	06/23/10
7. Solubility: Like dissolves like	06/30/10
8. Polymers and gels	07/14/10
9. Colour: Plant pigment extraction and spectrophotometry	07/21/10

* Topics and scheduling are subject to change

Field trip

The field trip will take place on either Saturday or Sunday. Further details will be provided when available.