

COMBINED SYLLABUS AND GUIDANCE

CHM130/100 (講義) and **CHM135/105 (実験)**

Prof. Yoshito Takeuchi

The best way to get information about CHM130/100 and CHM135/105 is to visit **AIMS**.

Just register for Course: **Chemistry Introduction**. The password is: **CHM2009S**.

Print out this guidance, and then visit AIMS. You can have detailed information of the statements in this guidance from AIMS.

GENERAL

About Myself

Graduated from 東京大学教養学部教養学科.

Professor Emeritus, The University of Tokyo

Professor Emeritus, Kanagawa University

Visiting Professor, AIU

A titular member of two committees of International Union of Pure and Applied Chemistry
(国際純正および応用化学連合 : UN of chemistry)

Throughout my carrier, 国際 and 教養 were two keywords.

For details visit [AIMS/Chemistry Introduction/1 Information/Curriculum Vitae](#)

General Purpose of CHM courses

- (1) To let you be literate in science/chemistry
- (2) To let you know that chemistry is a part of culture.

Important Notice

Because **CHM130/100** AND **CHM135/105** are coupled to a considerable extent, it is highly desirable for you to take **both**.

News Forum

If you take this course, you will receive e-mails from me rather frequently *via* **news forum** in AIMS. Each e-mail will contain important information such as “NO Class”.

CHM130/100

The Purpose of CHM130/100

- (1) To let you understand how atoms form molecules by chemical bonding.
- (2) To let you understand the fact that chemistry is very close to your everyday life.

Textbook

The textbook is the English version of the book originally written by myself in Japanese.

For 100/130: Yoshito Takeuchi, "Introduction to Chemistry"

(English version of 竹内敬人『化学の基礎』, 岩波書店 (1996))

For the history, visit [AIMS/Chemistry Introduction/1 Information/The History of the Textbooks](#)

The full text is uploaded in AIMS as pdf files. You can download them.

For full texts, visit [AIMS/Chemistry Introduction/8 Full Texts 100/130](#) and

However, in the class, the abridged, illustrated version of the text will be used.

These are also available from AIMS.

For texts used in the class, visit [AIMS/Chemistry Introduction/4 Texts 100/130](#)

You find that only 11 chapters will be discussed in the class. Roughly speaking, 2 weeks will be spent for the first 5 chapters and a week for the rest. You have to download a few chapters of the text in advance.

What is going on in the class

Lectures will be given with the aid of black (white) board and PowerPoint. You must bring the relevant part of the illustrated text.

You must print out the Data Book form AIMS and bring it to the class because the data in it will frequently be used in the lecture.

For the Data Book, visit [AIMS/Chemistry Introduction/6 Data/Data Book](#).

Examination**Small text**

From the 2nd week, you will have a small test for ca. 10 min. at the beginning of Wednesday's lecture (there may be some irregular schedule). This test is the substitute for the roll call. If you fail to appear before the end of the small test, you will be treated as absence.

At the beginning of the next day's lecture (Thursday, but there may be some irregular schedule), your "marked" reply will be returned to you. If you fail to receive yours during this returning procedure, you will be treated as absence.

As the feedback from me to you, a few "good" or "interesting" answers (your names are shown) will be uploaded in AIMS.

For an example of the feedback, visit [AIMS/Chemistry Introduction/2 EXAM/feedback example](#).

Midterm and Final Tests

The midterm test will be given around the 15th lecture and the final will be given the last (the 30th) lecture. 70 min. or so will be the time allowed. Marked answer sheets will be returned to you in due course (not next day). Comments will also be loaded. This will be a specimen for the big tests.

For comments on big tests, visit [AIMS/Chemistry Introduction/2 EXAM/final examination hints](#).

Essay

One or two reports will be assigned during the term.

Evaluation

Evaluation will depend on the results of tests (small, midterm and final) and report(s) together with your presence. Generally speaking, small tests, big tests, and your presence will equally be estimated.

Full attendance is taken for granted. It must be added **3 absences** without acceptable apologies will mean “F”.

In this connection you must know there is a guideline for the allowance of your absence due to the job hunting. Remember there is **a limit** for the absence due to the job hunting.

CHM135/105

The Purpose of CHM135/105

(1) Let you understand that the macroscopic properties of matter are determined by the microscopic structure of molecules.

(2) To let you understand the importance of 3-dimensional concept,.

There is “cooking” in this class. Instead, what you will try in this class is much more advanced as compared with the standard of experiments in the beginner’s class of university science majors.

Textbook

Both textbooks are the English version of the book originally written by myself.

For 105/135: Yoshito Takeuchi “Introduction to Stereochemistry”

(English version of 竹内敬人 『プログラム学習・立体化学入門』、講談社(1980)

For the history, visit [AIMS/Chemistry Introduction/1 Information/The History of the Textbooks](#)

Full texts are uploaded in AIMS as pdf files. You can download them.

For the full text, visit [AIMS/Chemistry Introduction/9 Full Texts 105/135](#)

However, in the class, the abridged, illustrated version of the text will be used. These are also available from AIMS.

For the text used in the class, visit [AIMS/Chemistry Introduction/5 Texts 105/135](#).

You have to download a few chapters of the text in advance..

What is going on in the class

In the class, you draw molecules with a variety of complexity with the aid of computer-graphics software, and and construct them with the molecular model kit. No deep knowledge on chemistry is required.

For the computer-graphics software, visit

<http://www.wavefun.com/cart/catalog/Spartan-Model-p-10.html>

For the molecular model kit, visit <http://www.hgs-model.com/model/index.html>

The software is already installed in the computers in L201, and the molecular model will be lent to you.

The software is prepared by an American company and is widely used in US. The molecular model is made in Japan but a good number of them are exported mostly to US. So, experience with these two teaching materials will be of some help to those who are planning to study in US.

Examination

Small text

You will have small tests as in CHM100/130, but the frequency is less. The system of feedback is the same as the lecture class.

Midterm and Final Tests

No big tests will be given. Instead, you will have a **big practice** to draw and make a molecule with substantial complexity in the last week.

Evaluation

Evaluation will depend on the results of small texts and the big practice. However, the weight of attendance will be very heavy. This is a universal rule for experiments and PE.

WHAT YOU SHOULD PREPARE IF YOU WANT TO ATTEND THE CLASSES

You must bring the indicated items when you attend the first lecture/laboratory (April 9 and 15).

CHM130/100

Data Book: AIMS/Chemistry Introduction/6 Data/**Data Book**

Text ch 1: AIMS/Chemistry Introduction/4 Texts 100/130/**L ch1 summary**

CHM135/105

Data Book: AIMS/Chemistry Introduction/6 Data/**Data Book**

Text ch 1: AIMS/Chemistry Introduction/5 Texts 105/135/**E ch1 summary**

ADVICE FOR BOTH CHM130/100 AND CHM135/105

If you find difficulty to follow the lecture, you had better come to my office as soon as possible for advice. Judging from my experience at AIU, students who came to my office frequently for questions made a good progress although their initial knowledge of chemistry was rather poor. If you will come with your friends who have the same difficulty, it will save my time and labor. You must notice, however, that I come to AIU only Wednesday and Thursday.

BEFORE GOOD-BY

If you register for the course CHM130/100 and CHM135/105 and decide not to take any of them, do not forget to cancel your registration.