

<b>(Course Title)</b> Chemistry in Kyoto iUP preparatory course	<b>(Course offered period)</b> 2 <sup>nd</sup> Semester <b>(Numbers of weekly frame)</b> Two <b>(Class style)</b> Lecture and Exercise <b>(Eligible students)</b> Students of Kyoto iUP Preparatory course <b>(Day/period)</b> Tuesday/1 and Wednesday/1
<b>(Affiliated department)</b> Institute for Liberal Arts and Sciences <b>(Job title)</b> Senior Lecturer <b>(Name)</b> OKADA, Yukinori	
<b>(Outline and Purpose of the Course)</b> Chemistry is an essential discipline for all modern natural scientists, as well as mathematics and physics. In Japanese high schools, natural science course students learn general chemistry, including physical chemistry, quantitative analytical chemistry, inorganic chemistry and organic chemistry. The class aims to establish the foundation of chemistry, particularly inorganic chemistry and organic chemistry.	
<b>(Course Goals)</b> The goal is to acquire the chemical knowledge which is equivalent to the graduates of Japanese high school, e.g. to acquire the knowledge and skills to solve the EJU level problems. EJU: Examination for Japanese University Admission for International Students	
<b>(Course schedule and Contents)</b> The following topics will be taken up. [Inorganic Chemistry] (4 weeks) <ul style="list-style-type: none"> <li>Hydrogen</li> <li>Oxygen and sulfur</li> <li>Inorganic gases</li> <li>Al, Zn, Sn, Pb</li> <li>Rare gases</li> <li>Nitrogen and phosphorous</li> <li>Alkali metals</li> <li>Transition metals (Fe, Cu, Ag)</li> <li>Halogens</li> <li>Carbon and silicon</li> <li>Mg and alkali earth metals</li> <li>Precipitates</li> </ul> [Organic Chemistry] (4 weeks) <ul style="list-style-type: none"> <li>Classification</li> <li>Alcohols</li> <li>Esters</li> <li>Aromatic carboxylic acids</li> <li>Isomers</li> <li>Carbonyl compounds</li> <li>Aromatic hydrocarbons</li> <li>Amines</li> <li>Hydrocarbons</li> <li>Carboxylic acids</li> <li>Phenols</li> </ul> [Exercises] (4 weeks) <ul style="list-style-type: none"> <li>EJU-level problems of general chemistry</li> </ul>	
<b>(Class requirement)</b> Students in the Kyoto iUP preparatory course	
<b>(Evaluation methods and policy)</b> The final examination is used to evaluate the progress.	
<b>(Regarding studies out of class (preparation and review))</b> No preparation is necessary. As weekly quizzes are given to check how much knowledge has been acquired, students are expected to review each class.	
<b>(Others (office hour, etc.))</b> Based on a student's understanding level, the interview with students will be scheduled temporarily.	
<b>(Textbook)</b> Handouts will be distributed.	
<b>(References)</b> The textbooks you used at high school are fine.	
<b>(Related URL)</b>	

<b>(Course Title)</b> Advanced Chemistry in Kyoto iUP preparatory course	<b>(Course offered period)</b> 2 <sup>nd</sup> Semester <b>(Numbers of weekly frame)</b> One
<b>(Affiliated department)</b> Institute for Liberal Arts and Sciences <b>(Job title)</b> Senior Lecturer <b>(Name)</b> OKADA, Yukinori	<b>(Class style)</b> Exercise <b>(Eligible students)</b> Students of Kyoto iUP Preparatory course <b>(Day/period)</b> TBA
<b>(Outline and Purpose of the Course)</b> <p>This is an exercise course for advanced learners. In class, students tackle advanced problems and develop thinking skills in chemistry by thinking well and trial and error.</p> <p>The problem sets and their solutions manual will be uploaded on Panda after class. Therefore, students can study on their own without attending classes.</p>	
<b>(Course Goals)</b> The goal is to be able to find solutions for complex problems in chemistry.	
<b>(Course schedule and Contents)</b> Some of the following topics will be taken up. [Physical Chemistry, Quantitative Analytical Chemistry, and Inorganic Chemistry] <ul style="list-style-type: none"> <li>● Acids and Bases</li> <li>● Ideal (Perfect) Gases</li> <li>● Thermochemistry</li> <li>● Oxidation and Reduction</li> <li>● Real Gases</li> <li>● Chemical Equilibrium</li> <li>● Cells and Electrolysis</li> <li>● Crystal Structures</li> </ul> [Organic Chemistry] <ul style="list-style-type: none"> <li>● Structure estimation</li> </ul>	
<b>(Class requirement)</b> Students in the Kyoto iUP preparatory course	
<b>(Evaluation methods and policy)</b> No evaluation will be done.	
<b>(Regarding studies out of class (preparation and review))</b> A summary of basic knowledge on each topic will be uploaded on Panda in advance. Understanding the knowledge before class is a prerequisite.	
<b>(Textbook)</b> Handouts will be distributed.	