Course no.	M 1586.000200	Class no.	001	Title	Water contaminants	Credits	3

Instructor				
	Name	Choi, Yongju	Homepage	http://weq.snu.ac.kr
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	Office hour/location: TBD			

1. Class objectives	Various contaminants exist in sewage, wastewater, and natural waters. Understanding the characteristics and fate of those contaminants is crucial for researches and applications of environmental engineering approaches. In this course, students will study the types and the characteristics of substances that degrade water quality, and mechanisms that determine the fate of the substances including phase partitioning, mass transfer, reactions, mixing, and dispersion. Students will get an in-depth understanding of mechanisms related to the fate of organic contaminants through organic chemistry approaches and analyze the fate of the contaminants at various settings of water environments. In addition to the lecture given by the instructor, the students will study, present, and discuss about sub-topics relevant to the course as well as their own research in order to fulfill the needs on background knowledge for those who have different research interests.
2. Textbook	1. Lecture notes (ppt) 2. Environmental Organic Chemistry, 2nd ed., R. P. Schwarzenbach, P. M. Gschwend, D. M. Imboden, John Wiley & Sons, Inc., 2003

3. Evaluation	Attendance	Final	Presentation	Homework	Total
	10%	40%	30%	20%	100%
	Remarks:				

4. Weekly Plan	Week	Contents
	1	Introduction / Organic chemistry background I
	2	Organic chemistry background II & III
	3	Water constituents
	4	Chemical transformations / Redox reactions I
	5	Redox reactions II & III
	6	Nucleophilic reactions I & II
	7	Nucleophilic reactions III / Photochemical reactions I
	8	Photochemical reactions II & III
	9	Phase equilibrium I & II
	10	Phase equilibrium III / Interphase mass transfer I
	11	Interphase mass transfer II & III
	12	Dispersion / Review
	13	Final exam / Student presentation & paper discussion
	14	Student presentation & paper discussion
	15	Student presentation & paper discussion

5. Notes	Student presentation & paper discussion: Each student will be in charge of 1/2 class for presentation and paper discussion on their own topic.
6. Policy on plagiarism	Assign 50% of the class low for any event