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|-------------------------------------|---|-------------------------------------|-------|-------------------------|--------------------|--------|---|
| Course No.                          | M1586.000200  | Lecture No.                         | 001   | Course Title (Subtitle) | Water contaminants | Credit | 3 |
| Representative Instructor           | Name  | Choi, Yongju (post : Assoc. Prof. ) |       | Homepage                |                    |        |   |
|                                     | E-mail  | ychoi81@snu.ac.kr                   |       | Phone No.               | 02-880-7376        |        |   |
|                                     | Interview Time/Place : TBD  |                                     |       |                         |                    |        |   |
| Prerequisite Course                 | None  |                                     |       |                         |                    |        |   |
| * 1.Purpose of Course               | <p>Various contaminants exist in natural as well as engineered water systems. 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.</p> |                                     |       |                         |                    |        |   |
| * 2.Materials and Reference         | <p>1. Lecture notes (ppt)<br/> 2. Environmental Organic Chemistry, 2<sup>nd</sup> ed., R. P. Schwarzenbach, P. M. Gschwend, D. M. Imboden, John Wiley &amp; Sons, Inc., 2003</p>  |                                     |       |                         |                    |        |   |
| * 3.Evaluation Method               | Attendance  | Homework                            | Final | Presentation            | Total              |        |   |
|                                     | 10  | 20                                  | 40    | 30                      | 100                |        |   |
|                                     | Attendance Students who are absent for over 1/3 of the class will receive a grade of 'F' or 'U' for the course.<br>Policy : (Exceptions can be made when the cause of absence is deemed unavoidable by the course instructor.)<br>Remark of Others :  |                                     |       |                         |                    |        |   |
| * 4.Lecture Plan                    | <ul style="list-style-type: none"> <li>◇ W1: Introduction / Water and water chemistry / Organic chemistry background I</li> <li>◇ W2: Organic chemistry background II &amp; III</li> <li>◇ W3: Organic chemistry background IV / Water constituents I</li> <li>◇ W4: Water constituents II / Chemical transformations</li> <li>◇ W5: Redox reactions I &amp; II</li> <li>◇ W6: Redox reactions III / Nucleophilic reactions I</li> <li>◇ W7: Nucleophilic reactions II &amp; III</li> <li>◇ W8: Photochemical reactions I &amp; II</li> <li>◇ W9: Photochemical reactions III / Phase equilibrium I</li> <li>◇ W10: Phase equilibrium II &amp; III</li> <li>◇ W11: Interphase mass transfer I &amp; II</li> <li>◇ W12: Interphase mass transfer III / Dispersion</li> <li>◇ W13: Final exam / Student presentation &amp; paper discussion</li> <li>◇ W14: Student presentation &amp; paper discussion</li> <li>◇ W15: Student presentation &amp; paper discussion</li> </ul>                                  |                                     |       |                         |                    |        |   |
| 5.References to Course Registration |   |                                     |       |                         |                    |        |   |

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| 6. Support Services for Students with Disabilities<br><br>※ You can modify these default contents. | For Lectures                  | <input type="checkbox"/> Visual Impairment: Make textbooks(digital textbook, braille textbook, enlarged textbook etc.), Allow note takers<br><input type="checkbox"/> Physical Disability: Make textbooks (digital textbook), Allow note takers and assistants<br><input type="checkbox"/> Hearing Impairment: Allow note takers and translators, Allow lecture recording<br><input type="checkbox"/> Health Impairment: Excuse absence due to health problems, Allow note takers<br><input type="checkbox"/> Learning Disability: Allow note takers<br><input type="checkbox"/> Intellectual Disability / Autism Spectrum Disorder: Allow note takers and mentors |
|  | For Assignments & Evaluations | <input type="checkbox"/> Visual Impairment / Physical Disability / Hearing Impairment / Health Impairment / Learning Disability: Extend assignment deadlines, Offer alternate assignment submission and response method, Extend testing period, Offer alternate testing method, Offer different testing room<br><input type="checkbox"/> Intellectual Disability / Autism Spectrum Disorder: Offer individualized assignments and alternative evaluations  |
|  | Others                        | Students who take this course can get appropriate level of support service including the support listed above depending on the students' individual characteristics and needs through consultation with professors and the Support Center for Students with Disabilities. If you have any questions concerning support service for students with disabilities you can contact Professor Yongju Choi (02-880-7376) or Support Center for Students with Disabilities (02-880-8787).  |

◇ fields with \* : required fields

◇ If you don't release the syllabus, you may have some disadvantages.