

Environmental Fate and Impact of Pollutants in Soil and Water
Environment and Natural Resources 5273
Course Syllabus, Spring Semester 2018
164 Howlett Hall, TuTh 9:35AM - 10:55AM

INSTRUCTOR: Nicholas T. Basta
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INSTRUCTOR ASSISTANT:
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COURSE DESCRIPTION: 3 semester hr. An overview of contaminant sources, transport through soil and water, and of environmental fate and impact of contaminants to human and ecosystem receptors. Topics include assessment and remediation of soil and water contaminants.

PREREQUISITES: Chem 1110 or Chem 1210 or graduate student standing

COURSE OBJECTIVES: After completion of this course:
You should have an understanding of:

1. sources of major environmental pollutants,
2. the relationship between environmental processes and contaminant transport and exposure,
3. pollutant transport through human and ecosystem pathways
4. approaches used to prevent or remediate environmental contamination

TEXTBOOKS: Recommended but not required
Environmental and Pollution Science. 2nd edition. 2006. Ian L. Pepper, Charles P. Gerba, and Mark L. Brusseau. ISBN 0-12-551503-0. Academic Press.
Chemical Fate and Transport in the Environment. 3rd edition. 2015. Harold F. Hemond and Elizabeth J. Fechner. ISBN 978-0-12-398256-8. Elsevier.
Environmental Chemistry, 10th edition. 2017. Stanley E. Manahan. CRC Press, Boca Raton FL

CLASS NOTES:
Class notes will be posted as pdf files on-line

EXAMINATIONS AND GRADING

exams, problem sets, attendance

	% OF GRADE
2 exams @ 20 each	40
Final Examination	20
topical briefs	20
Attendance and participation	10
Preclass quizzes	10

Grading A 90-100; B 80-89; C 70-79; D 60-69; F < 60.
Plus/minus grading applied to overlap ranges.

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DISABILITY STATEMENT

Students with disabilities who need accommodations should see Dr. Basta during office or contact him by telephone (614-292-6282) or e-mail (basta.4@osu.edu) to make arrangements. Special needs must be discussed and arrangements made well in advance (preferably before the first week of class) of when arrangements to accommodate specific needs are required. Special accommodations may be arranged through the OSU Office of Disability Service, 150 Pomerene Hall, 1760 Neil Ave., Telephone 614-292-3307, <http://slds.osu.edu/>

TOPICS COVERED:

extent and types of pollution; environmental impact and risk; contaminant transport; surface water quality; chemistry; nutrient pollution and waste management; organic chemical pollution; emerging pollutants (pharmaceutical and personal care products, PFOS, PFOA, etc.), trace element pollution including ewaste; radionuclide pollution, shale fracking pollution, soil /groundwater remediation, beneficial reuse of industrial, agricultural, and municipal byproducts.