

UNIVERSITY OF CALGARY
DEPARTMENT OF CHEMISTRY
COURSE SYLLABUS
FALL 2014

COURSE: CHEMISTRY 321 – Environmental Chemistry

LEC	DAYS	TIME	ROOM	INSTRUCTOR	OFFICE	PHONE	EMAIL	OFFICE HOURS
L01	TuTh	15:30-16:45	EDC 179	Dr. Osthoff	SB 205	220-8689	hothoff@ucalgary.ca	Tu Th 5-6; Wd 12-1

TEXTBOOK: The following texts are recommended supplementary reading: "Elements of Environmental Chemistry", 2nd Edition, by Ronald Hites and Jonathan Raff, ISBN 978-1-118-04155-0, and "Environmental Chemistry", 5th or 4th Edition, by Colin Baird and Michael Cann, W.H. Freeman, NY. All three are available either in the library on reserve or online via the library web site.

TOPICS COVERED AND SUGGESTED READING:

	Baird/Cann (4 th / 5 th ed)	Hites/Raff (2 nd ed)
Global biogeochemical cycles	-	-
Atmospheric composition; Chapman mechanism	Chapter 1 / 1	Chapter 3
Catalytic destruction of stratospheric ozone and Montreal Protocol	Chapter 2 / 2	Chapter 3
Regional air pollution: Ozone, fine particulate matter, and acid rain	Chapters 3,5 / 3-4	Chapter 3
Greenhouse effect and climate forcing	Chapter 6 / 5	Chapter 4
Energy	Chapters 7-8 / 6-8	-
Radioactivity & nuclear energy	Chapter 9 / 9	-
Toxicology and bioaccumulation	-	Chapter 7
Pesticides, DDT, organochlorine compounds	Chapters 10-11 / 13-15	Chapter 6
Herbicides, Dioxins, Furans, and PCBs	Chapters 10-11 / 13-15	Chapter 8
PAH, estrogens, fire retardants	Chapter 12 / 13-15	Chapter 8
Aqueous chemistry and water pollution	Chapter 13 / 10	Chapter 5
Waste water treatment and colloids	Chapter 14 / 11	-
Bioremediation	Chapter 15 / -	-
Soil Chemistry	Chapter 16 / -	-
Time permitting: Toxic metals and high-tech trash	- / Chapter 12	-
Time permitting: Bioremediation	- / -	-

This course does not have a laboratory component.