

CEE 490/ENV H 461 Air Pollution Control

M-W 10:30-12:20

Professor Tim Larson, (tlarson@uw.edu)

Canvas Website: [CEE 490 A Sp 22: Air-Pollution Control \(uw.edu\)](https://canvas.libraries.uw.edu/courses/1234567890/sections/1234567890)

Zoom Live Class on M-W 10:30-12:00: <https://washington.zoom.us/j/98615422858>

There is not a required textbook for this class.

Notes and assignments will be posted on the Canvas website.

Office hours: 12 to 1 PM on Wednesdays in 269 Wilcox Hall (mask use requested)

Week 1: Introduction & Criteria Air Pollutants

Criteria Air Pollutant Health Effects & Standards

Air Permits

Week 2: Hazardous Air Pollutants ('Air Toxics')

Air Toxics 2020.pdf

National Air Toxics Assessment.pdf

Air Toxics Screening Models 2020.pdf

Week 3: Stationary Source Emission Testing

Overview of Emission Estimation Methods

Basic stack sampling procedures

In-situ Continuous Emission Monitoring Systems

Week 4: Particulate Emission Controls: Part 1

Gravity and Inertial Collection Mechanisms

Week 5: Particulate Emission Controls: Part 2

Filtration & Baghouses

Electrostatic Precipitators

Week 6: Stationary Source NO_x, SO₂ and Hg emission controls

NO_x controls

SO₂ controls

Hg controls

Week 7: Stationary Source Hydrocarbon and Odor Controls

Incineration

Adsorption

Biofiltration & Non-thermal Plasma

Week 8: Stationary Source GHG Emission Reductions

Climate and GHG emission goals

GHG emission reduction options
Carbon Trading

Week 9: Mobile Source Emission Regulations and Controls

Traditional Pollutant regulations & control
Transportation GHG controls

Week 10: Respirable Silica and Diesel Exhaust in the Workplace

Respirable Silica and the Construction Industry
Diesel Exhaust

Grading:	Homework:	20%
	Discussions	15%
	Midterm:	30%
	Final:	35%

Some Textbooks on this subject:

“Air Pollution Control: A Design Approach” 4th Edition by Cooper and Alley

“An Introduction to Air Pollution Control” by J. Paul Guyer

“Air Quality” 5th Edition by Godish, Davis and Fu

Disability Resources for Students (DRS) offers resources and coordinates reasonable accommodations for students with disabilities. Reasonable accommodations are established through an interactive process between you, your instructor(s) and DRS. If you have not yet established services through DRS, but have a temporary or permanent disability that requires accommodations (this can include but not limited to; mental health, attention-related, learning, vision, hearing, physical or health impacts), you are welcome to contact DRS at 206-543-8924 or uwdrs@uw.edu or disability.uw.edu

Washington state law requires that UW develop a policy for accommodation of student absences or significant hardship due to reasons of faith or conscience, or for organized religious activities. The UW’s policy, including more information about how to request an accommodation, is available at [Religious Accommodations Policy](https://registrar.washington.edu/staffandfaculty/religious-accommodations-policy/) (<https://registrar.washington.edu/staffandfaculty/religious-accommodations-policy/>). Accommodations must be requested within the first two weeks of this course using the [Religious Accommodations Request form](https://registrar.washington.edu/students/religious-accommodations-request/) (<https://registrar.washington.edu/students/religious-accommodations-request/>).

This course is scheduled to run synchronously at your scheduled class time via Zoom. These Zoom class sessions will be recorded. The recording will capture the presenter’s audio, video and computer screen. Student audio and video will be recorded if they share their computer audio and video during the recorded session. The recordings will only be accessible to students enrolled in the course to review materials. These recordings will not be shared with or accessible to the public.

The University and Zoom have FERPA-compliant agreements in place to protect the security and privacy of UW Zoom accounts. Students who do not wish to be recorded should:

- Change their Zoom screen name to hide any personal identifying information such as their name or UW Net ID, and
- Not share their computer audio or video during their Zoom sessions.