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**Instructor:** Dr. Zafer Boybeyi

**Offered in:** Fall - 2012, 2013, 2014, 2015, 2016, 2017, 2018 & 2019

**Credit:** 3-Credits Course

**Content:** Description of major types of air pollution and introduction to how their characteristics are influenced by interaction with the atmosphere. Topics include sources and distribution of pollution from local to global scales, effects of radiation and wind on pollution, modeling of plume dispersion, and pollution effects on climate



**Syllabus:** [\(pdf\)](#)

**Lecture 1:** Introduction

**Lecture 2:** Measures of Atmospheric Composition

**Lecture 3:** Atmospheric Stability & Dispersion

**Lecture 4:** Fundamentals of Air Pollution

**Lecture 5:** *Indoor Air Pollution, Regulations & Standards*

**Lecture 6:** Simple Models

**Lecture 7:** Complex Lagrangian Models

**Lecture 8:** Complex Eulerian Models

**Lecture 9:** Geochemical Cycles

**Lecture 10:** Greenhouse Gases Effect

**Lecture 11:** Aerosols

**Lecture 12:** *Stratospheric Ozone*

**Lecture 13:** *Tropospheric Ozone*

**Lecture 14:** *Acid Rain*

**Lecture 15:** Air Pollution Applications

**Textbook:** [Air Pollution: Engineering, Science, and Policy](#)  
(Steven P. K. Sternberg)

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Interested persons should contact Dr. Zafer Boybeyi at [zboybeyi@gmu.edu](mailto:zboybeyi@gmu.edu).

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