



Department of

**Environmental Engineering**

MERCER UNIVERSITY

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**EVE 402**

***Air Pollution Generation and Control***

Fall 2013

Monday, Wednesday, Friday

9:00 – 9:50

Room EGC 110

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**Instructor:** André Butler  
Environmental Engineering

**Office:** Suite 116E, School of Engineering      **Availability:** By appointment; VERY flexible

**Phone:** 301-2476 (w)

**Email:** butler\_aj@mercer.edu

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**Required**                      Wark, K., Warner, C.F., and Davis, W.T. "Air Pollution: Its Origin and Control,"  
Third Edition, Addison Wesley, Longman, 1998.  
ISBN: 978-0673994165.

**Catalog Description:**

A study of air pollution, including measurements, causes and effects on the environment. Comparison of chemical and particulate pollution from various sources. Energy and meteorological characteristics of the atmosphere in relation to the distribution of pollutants. Evaluation and design of low emission systems and components. Discussion of practical solutions and governmental regulations for the present and future. Plant trips and design projects.

**Course Objectives:**

Upon successful completion of this course, students will be able to

1. Identify and list typical pollution sources and describe their effects on health and the environment.
2. Solve elementary problems related to air pollution concentrations (mass balances and volume air flow calculations) and visibility limitations associated with pollutants.
3. Apply meteorological skills to determine environmental stability and to describe micro and macro wind movements.
4. Use meteorology knowledge in combination with pollution dispersion modeling techniques (Gaussian) to predict target compound concentrations at any location from the point source.
5. Select/describe appropriate particulate control technology and perform basic design calculations.
6. Select/describe appropriate gas and vapor control technology and perform basic design calculations.
7. Discuss details surrounding both local and global environmental issues (global warming, ozone, greenhouse gases, attainment issues, etc).

**Course Website:** [http://faculty.mercer.edu/butler\\_aj/eve402.htm](http://faculty.mercer.edu/butler_aj/eve402.htm)

Visit often for course updates.

**Prerequisites:** EVE 290.

**Grading:** The final grade will be determined as follows:

Homework	20%	
Exam #1	25%	
Exam #2	25%	
Final Exam	30%	<b>Saturday, 14 December, 2013, 9:00 - 12:00 Noon.</b>

**Homework:** Homework is an important component of the class and will be distributed regularly. Collaboration is acceptable, but each student must submit an individual assignment. As a general rule, late homework assignments will not be graded.

**Class Participation:** Students are expected to attend class and actively participate during discussions.

**Class Standards**

1. Please turn off cell phones before entering the classroom.
2. The **honor code** provisions as outlined in the *Bulletin* and in the student handbook, *The Lair*, will be assumed for everyone. It should be clear from class discussion whether an assignment is collaborative or individual. When in doubt, please ask to avoid potentially embarrassing situations. Plagiarism is a violation of the honor code and is strictly prohibited.
3. Students requiring accommodations for a disability should inform the instructor at the close of the first class meeting or as soon as possible. The instructor will refer you to the Disability Support Services Coordinator to document your disability, determine eligibility for accommodations under the ADA/Section 504 and to request a Faculty Accommodation Form. Disability accommodations or status will not be indicated on academic transcripts. In order to receive accommodations in a class, students with sensory, learning, psychological, physical or medical disabilities must provide their instructor with a Faculty Accommodation Form to sign. Students must return the signed form to the Disability Services Coordinator. A new form must be requested each semester. Students with a history of a disability, perceived as having a disability, or with a current disability, who do not wish to use academic accommodations, are also strongly encouraged to register with the Disability Services Coordinator and request a Faculty Accommodation Form each semester. For further information, please contact Carole Burrowbridge, Disability Services Coordinator, at 301-2778 or visit the Disability Support Services website at <http://www.mercer.edu/studentaffairs/disabilityservices>
4. This syllabus is subject to change.

**Electronic Communication**

As the need arises, I may choose to communicate to the class via email. I will do this using a database that incorporates your official Mercer email account. As a general rule, I will not accommodate your personal email accounts regarding emails to the class.