

saggarwal@alaska.edu	Faculty Contact	Srijan Aggarwal
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1. **COURSE DESCRIPTION** * Do not make changes to be made to the existing course.

Change Course	<input checked="" type="checkbox"/>	If Change, indicate below what is changing.	Drop Course	<input type="checkbox"/>	
NUMBER	<input type="text"/>	TITLE	<input type="text"/>	DESCRIPTION	<input checked="" type="checkbox"/>
PREREQUISITES*	CHEM 106X	FREQUENCY OF OFFERING		<input checked="" type="checkbox"/>	
*Prerequisites will be required before a student is allowed to enroll in the course.					
CREDITS (including credit distribution)	<input type="text"/>	COURSE CLASSIFICATION		<input type="text"/>	
ADD A STACKED LEVEL (400/600) Include syllabi.	<input checked="" type="checkbox"/>	Dept.	CE	Course #	F443

ADD NEW CROSS-LISTING	<input type="text"/>	Dept. & No.	<input type="text"/>	Requires approval of both departments and deans involved. Add lines at end of form for additional signatures.
STOP EXISTING CROSS-LISTING	<input type="text"/>	Dept. & No.	<input type="text"/>	Requires notification of other department(s) and mutual agreement. Attach copy of email or memo.
OTHER (specify)	<input type="text"/>			

3. **COURSE FORMAT**

NOTE: Course hours may not be compressed into fewer than three days per credit. Any course compressed into fewer than six weeks must be approved by the college or school's curriculum council and the appropriate Faculty Senate curriculum committee. Furthermore, any core course compressed to less than six weeks must be approved by the Core Review Committee.

COURSE FORMAT: (check <u>all</u> that apply)	<input type="checkbox"/>	1	<input type="checkbox"/>	2	<input type="checkbox"/>	3	<input type="checkbox"/>	4	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>	6 weeks to full semester
OTHER FORMAT (specify all that apply)	<input type="text"/>											
Mode of delivery (specify lecture, field trips, labs, etc.)	Lecture											

4. COURSE CLASSIFICATIONS : (undergraduate courses only. Use approved criteria found in Chapter 12 of the curriculum manual. If justification is needed, attach separate sheet.)

H = Humanities S = Social Sciences

Will this course be used to fulfill a requirement for the baccalaureate core?	YES	<input type="checkbox"/>	NO	<input checked="" type="checkbox"/>
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IF YES*, check which core requirements it could be used to fulfill:

O = Oral Intensive,
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CE F443 Air Pollution Management
3 Credits
Offered Spring of Odd-numbered Years

Air pollution topics including the quantity and quality of atmospheric emissions and their effects on the human environment. Identification and location of sources, measurement of quality and conformance with standards. Legal considerations of Clean Air Act and Amendments and local regulations. Evaluation of stationary and moving sources. Meteorology and modeling requirements. Control mechanisms for gases and particulates. Prerequisites: CHEM 106X or equivalent; Recommended: MATH F201X; Stacked with ENVE F643 (3+0)

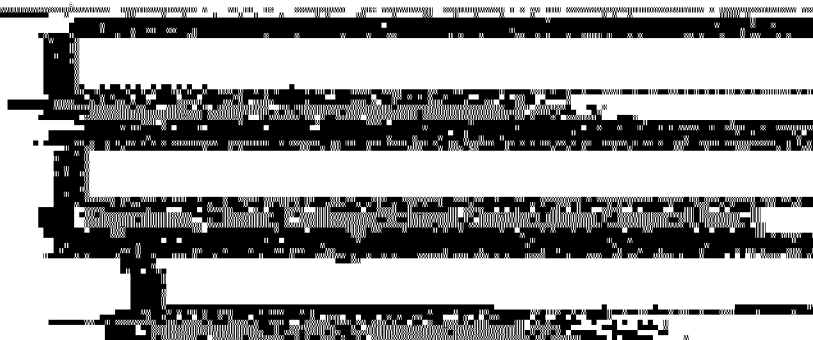
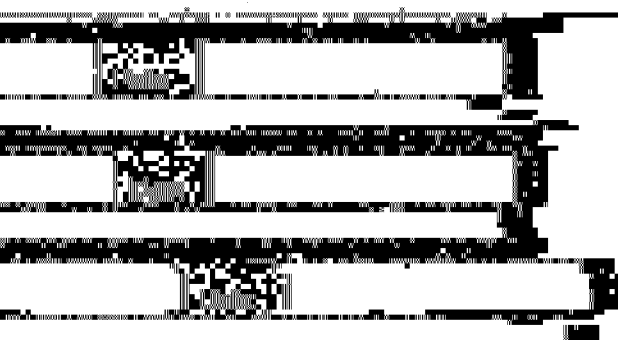
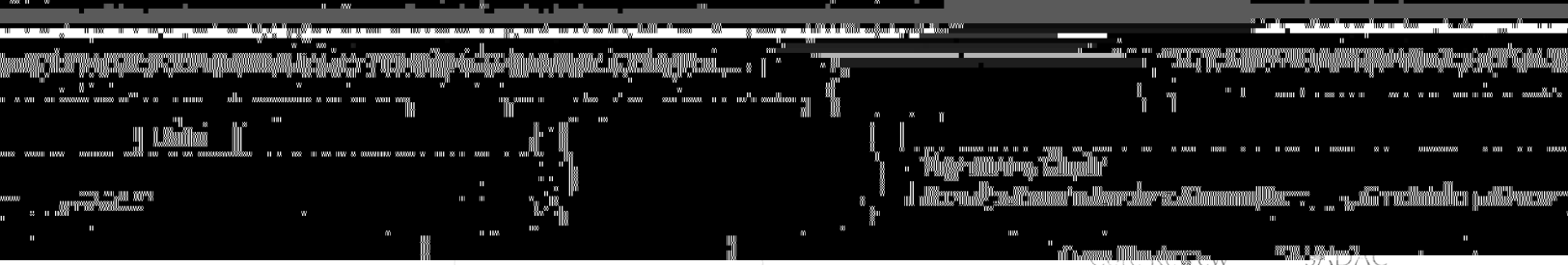
8. GRADING SYSTEM: Specify only one .

LETTER:

PASS/FAIL:

Pharmaceutical Industry's Environmental Impact

2015



CE 443
Air Pollution Management (3 credits)

Instructor Dr. Srijan Aggarwal Ph.D., Assistant Professor
Department of Civil and Environmental Engineering
Email: saggarwal@alaska.edu
Office: Duckering 271 Tel: 907-747-6120

Class meeting time Tuesday and Thursday 11:30 am - 1 pm
Class location Duckering 345

Legal considerations of Clean Air Act and Amendments and local regulations
 Evaluation of stationary and moving sources meteorology and modeling requirements. Control mechanisms for gases and particulates.

Course Goals

This course helps the students with :

- x An ability to apply knowledge of mathematics, science, and engineering
- x An ability to identify, formulate, and solve engineering problems.
- x A recognition of the need for, and an ability to engage in life-long learning.
- x An ability to use the techniques, skills and modern engineering necessary for engineering practice.

Student Learning Outcomes

- x Understand the chemistry and physics behind air pollution
- x Apply mathematical principles to air pollution modeling
- x Become familiar with regulations in air quality field
- x Learn techniques for air quality assessment and control
- x Develop skills in reading and criticism of primary scientific literature
- x Develop literature research, writing and oral presentation skills

Instructional methods

Lectures with supporting reading from textbooks and primary scientific literature will form the knowledge base of the course. Relevant journal articles will be assigned for critical group discussion.

Evaluation/Grading Policy

Homeworks.....	25%
Quizzes and Class Participation.....	15%
Midterm Exam	30%
Final Exam	30%

Final grades will be awarded according to the following scale:

95-100 A; 90- <95 A-; 85 - <90 B+; 80 - <85 B; 75 <80 B-;
 70 - <75 C+; 65 - <70 C; 55 <65 D; <55 F

Either the weighted percentages or a curve maybe used, whichever gives best grades.

Course Policies

1. Academic integrity. Each student must become aware of UAF's policy on academic integrity as detailed in the Student Code of Conduct 50 of the 2014-2015 catalog. The FIRST violation of the student code will result in immediate failure of the course and/or disciplinary action as per UAF policy
2. Communication. Outside of scheduled lectures and office hours, email is the official form of communication. When sending a message to the instructor, please use use iCEN as the subject line. Students are expected to check their UAF email accounts for course updates. In addition, UAF

3. Exams. One mid-term exam and a final will be given during the semester. ~~will~~ be designed to test your understanding of critical concepts and your ability to solve problems. Exams are closed book/closed notes, however you may use a single 8.5" by 11" cheat sheet of your own creation.
4. Quizzes. Six to eight quizzes (open book and notes) will be conducted during the course of the semester. Best five quizzes will be considered for the final grade. No ~~make~~ quizzes.
5. Homeworks. Regular homework problems will be assigned throughout the semester (see course calendar). Homework assignments are due at the 5:00 PM on the due ~~date~~. homework will NOT be accepted without prior approval from the professor.
6. Make up exams: Exams must be taken on the scheduled dates (see the course schedule in the ~~end~~) in general there will be no ~~make~~ exams. Makeups will be given only under extreme circumstances. It is expected that the student will contact the instructor sufficiently in advance of an exam or have sufficient reason that they could not do ~~valid~~ reasons include severe sickness (as stated by physician's certificate), bereavement, or travel on university business (a letter in advance from the supervisor or responsible official).
7. Absence. If you are absent from any class it is your responsibility to inform yourself about the class material or any announcements. If you miss a quiz or homework you receive a "zero grade", except when you have made arrangements beforehand for reasons as stated above.
8. Attendance. Class attendance at all lectures is ~~required~~ and will be monitored. The ~~prof~~ reserves the right to adjust final grades up or down based on a student's course participation. You are welcome to ask questions in class or during office hours. Class participation and discussion makes the course lively and interesting for everyone.
9. Homework Format: It is imperative that engineering work be well organized and neatly presented in order to convey the desired information to peers, clients, and other interested parties in a clear, logical manner. Developing these skills of written ~~communication~~ is critical to career development. Pay close attention to these while submitting homework and exams.
10. Incomplete. An "incomplete" will not be given unless severe illness, family tragedy, or a sudden transfer is involved. A written explanation and the completion of the appropriate UAF paperwork must be submitted in all cases.
11. Disabilities. If you have specific physical, psychiatric or learning disabilities and require reasonable accommodations, please let me know early in the semester so that ~~teaching~~ needs may be appropriately met. You will need to provide documentation of your disability to 'Disability Services' in room 208 of the Whitaker Building and request a letter of accommodation.

ENVE 643
Air Pollution Management (3 credits)

Instructor

Legal considerations of Clean Air Act and Amendments and local regulations.
Evaluation of stationary and moving sources. Meteorology and monitoring requirements. Control mechanisms for gases and particulates.

Course Goals

This course helps the students with :

- x An ability to apply knowledge of mathematics, science, and engineering
- x An ability to identify, formulate, and solve problems.

Blackboard will be used for general announcements, distribution of course materials and posting of grades.

3. Exams. One mid-term exam and a final will be given during the semester (see course calendar). Each will be designed to test your understanding of critical concepts and your ability to solve problems. Exams are closed book/closed notes, however you may use a single 11" cheat sheet of your own creation.
4. Quizzes. Six to eight quizzes (open book and notes) will be conducted during the course of the semester. Best five quizzes will be considered for the final grade. No make-up quizzes.
5. Homeworks. Regular homework problems will be assigned throughout the semester (see course calendar). Homework assignments are due at the 5:00 PM on the due date. Late homework will NOT be accepted without prior approval from the professor.
6. Make up exams: Exams must be taken on the assigned date (see course calendar) and in general there will be no make-up exams. Makeups will be given only under extreme circumstances. It is expected that the student will contact the instructor sufficiently in advance of an exam or have sufficient reason that they could not do so.

13. Disabilities. If you have specific physical, psychiatric or learning disabilities and require reasonable accommodations, please let me know early in the semester so that your learning needs may be appropriately met. You will need to provide documentation of your disability to 'Disability Services' in room 208 of the Whitaker Building and request a letter of accommodation

Tentative course calendar is as below:

Theme	Lecture	Topics Covered	Readings (APHSR)	\$W • f • U™ dŽ k VÀ b
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