

# 신규 교과목 개요서

공과대학 건설환경공학부(학과,전공)장 박재우 @

교과목명	(국문) 대기환경	과목구분	학년	학기	학점-강의-실습
	(영문) Atmospheric Environment	전공심화	2	2	3 - 3 - 0
관장학과	공과대학 건설환경공학과				
수업정보	교강사수	<input checked="" type="checkbox"/> 단독운영 <input type="checkbox"/> 2명이상(팀티칭 또는 옴니버스)			
	운영방식	<input checked="" type="checkbox"/> 일반강의(설명중심) <input type="checkbox"/> 토론식 또는 세미나식 <input type="checkbox"/> 기업체 파견 및 관리			
	수강규모	일반 강좌 운영 규모 : 50-60명 이상			

국문개요 (상세하게 기술)	<p>‘대기환경’은 현대 사회에 가장 심각한 문제로 대두하고 있는 초미세분진, 성층권의 오존층 파괴, 지구온난화 등과 같이 국부적 또는 광역적 대기오염문제에 근원적인 해결책을 확보하기 위하여, 대기환경의 다양한 오염현상들을 대기화학과 물리기상학적 현상들의 교호적인 현상으로 파악할 수 있는 기초적인 지식을 함양하는 데 초점을 둔다. 궁극적으로 본 수업을 통해, 지구의 대기환경에 존재하는 오염물질들의 거동과 이들의 제어관리에 핵심적으로 필요한 기반기술들에 대한 기초적인 지식을 축적할 것이다.</p>
영문개요	<p>Atmospheric Environment class is offered to teach students the general aspects of atmospheric phenomenon, air pollution, and related meteorological processes. Students are expected to gain the fundamental knowledge in the interactions between these important components in the earth's atmosphere. Eventually, students will obtain the constructive information to build control tactics for air pollution and air quality degradation.</p>

\* 교과목 관장학과(부, 전공)에서 작성한다.

수업목표	Atmospheric Environment class is offered to teach students general aspects of atmospheric phenomenon, air pollution, and related meteorological process. Students can learn the basic interactions between these important components in the earth's atmosphere.
수업운영방식 (상세하게 기술)	Lecture, Quiz, Term paper
평가방식	Mid term (30%), Final (40%), Quiz & Homework (20%), Attendance (10%)

**[수강생 권장 도서]**

구분	도 서 명	저 자	출판사
1	Atmospheric Environment	김기현 외	향문사
2	Fundamentals of Air Pollution	Boubel 외	Academic Press
3			

[주차별 강의 요약 및 과제]

주차	학습 주제	과제
1	Basics of air pollution: Physical aspects of atmosphere What makes the air temperature change with increasing altitude? Learning what kind of components does the air we breathe have?	
2	Classification of airborne pollution and management efforts The importance of criteria pollutants and non-criteria pollutants How the legislative criteria are made to protect air quality?	
3	Expression of air pollutant concentration What components of air make the air pollution? How to express the quality of air and its association with air quality Conversion between pollutant concentration expression	
4	Pollution of airborne particulate matter Classification of PM pollution/Fate of PM	
5	Pollution of airborne particulate matter Particle distribution & What is visibility	
6	Pollution of airborne particulate matter How is particle important to assess air quality?	
7	What are the major components of gaseous pollutants? Gaseous pollutants: C, N, and S Gaseous pollutants: CFC and others	
8	Mid-term exam	
9	Reaction of gaseous pollutants in air Fate of gas pollutants, reaction rate, and half life	
10	Sources of air pollution Where do air pollutants come? Will air be clean even when there are no man-made source activities?	
11	Air pollution & Its impact The impact of air pollution on human and ecological systems	
12	Air pollution and meteorology 1 Why is meteorology important to address air pollution?	
13	Air pollution and meteorology 2 What is the interaction between air pollution and meteorology?	
14	Air pollution and atmospheric stability Atmospheric stability is determined by meteorological factors	
15	Perspectives on future air quality How should we maintain air quality for our future life?	