



2017학년도 2학기 강의계획안

교과목명 Course Title	탄소와 물순환 Carbon and water cycles	학수번호-분반 Course No.	38417-01
개설전공 Department/Major	기후·에너지시스템공학과 Department of Climate and Energy Systems Engineering	학점/시간 Credit/Hours	3/3
수업시간/강의실 Class Time/ Classroom	월 2:00~3:15, 수 12:30~1:45 / 아산공학관 107호		
담당교원 Instructor	성명: 민배현, 유창현 Name: Baehyun Min and Changhyun Yoo	소속: 기후·에너지시스템공학과 Department of Climate and Energy Systems Engineering	
	E-mail: bhmin01@ewha.ac.kr , cyoo@ewha.ac.kr	연락처: 02-3277-6946, 6949 Telephone	
면담시간/장소 Office Hours/ Office Location	이메일 신청 후 면담 약속을 정함 By appointment		

I. 교과목 정보 Course Overview

1. 교과목 개요 Course Description

This is an introductory course on carbon and water cycles in the Earth's climate system. As a team teaching course, the course will be organized into two separate parts. During the first half of the semester, the hydrological cycle, focusing on the moist processes in the atmosphere, will be the topic. The second half will be about global carbon cycle.

2. 선수학습사항 Prerequisites

None

3. 강의방식 Course Format

강의 Lecture	발표/토론 Discussion/Presentation	실험/실습 Experiment/Practicum	현장실습 Field Study	기타 Other
60%	20%	20%		0%

강의 진행 방식 설명 (explanation of course format):



4. 교과목표 Course Objectives

- Understanding on Earth's hydrological cycle
- States of water in the Atmosphere
- Cloud formation
- Precipitation
- Understanding on the Global Carbon Cycle
- Carbon cycle - stable or unstable?
- Methane

5. 학습평가방식 Evaluation System

1. Water cycle

시험 Midterm Exam	퀴즈 Quiz #1	발표 Presentation	과제물 Assignments	참여도 Participation
15%	5%	10%	10%	10%

2. Carbon cycle

시험 Final Exam	퀴즈 Quiz #2	발표 Presentation	과제물 Assignments	참여도 Participation
15%	5%	10%	10%	10%

II. 교재 및 참고문헌 Course Materials and Additional Readings

1. 주교재 Required Materials

Aguado, E., and J. E. Burt, 1999. Understanding Weather and Climate. Prentice Hall.
 Archer, D., 2010. The Global Carbon Cycle. Princeton University Press.

2. 부교재 Supplementary Materials

3. 참고문헌 Optional Additional Readings



III. 수업운영규정 Course Policies

- * 실험, 실습실 진행 교과목 수강생은 본교에서 진행되는 법정 '실험실안전교육(온라인과정)'을 필수로 이수하여야 함.
- * For laboratory courses, all students are required to complete lab safety training.

IV. 주차별 강의계획 Course Schedule (최소 15주차 강의)

주차	날짜	주요강의내용 및 자료, 과제(Topics & Class Materials, Assignments)
1주차	9/4	An overview
	9/6	Hydrological cycle
2주차	9/11	Atmospheric moisture
	9/13	Atmospheric moisture
3주차	9/18	Atmospheric moisture
	9/20	Cloud
4주차	9/25	Cloud
	9/27	Cloud
5주차	9/30	Hydrological cycle and climate change
	10/11	Precipitation
6주차	10/14	Precipitation
	10/16	Presentation
7주차	10/18	Presentation
	10/23	Water in climate system
8주차	10/23	Midterm (18:30-19:45)
	10/30	Midterm - solution
9주차	11/6	Carbon on Earth
	11/8	Carbon on Earth
10주차	11/13	The Stable Geologic Carbon Cycle
	11/15	The Stable Geologic Carbon Cycle
11주차	11/20	The Unstable Ice Age Carbon Cycle
	11/22	The Unstable Ice Age Carbon Cycle
12주차	11/27	The Present and Future Carbon Cycle
	11/29	The Present and Future Carbon Cycle



주차	날짜	주요강의내용 및 자료, 과제(Topics & Class Materials, Assignments)
13주차	12/4	Methane
	12/6	Methane
14주차	12/11	Presentation
	12/13	Presentation
15주차	12/18	Geological Carbon Sequestration
	12/20	Final Exam (18:30- 19:45)
보강1 Makeup Classes	TBD	TBD
보강2 Makeup Classes	TBD	TBD
보강3 Makeup Classes	TBD	TBD

V. 참고사항 Special Accommodations

* 학칙 제57조에 의거하여 장애학생은 학기 첫 주에 교과목 담당교수와의 면담을 통해 출석, 강의, 과제 및 시험에 관한 교수학습지원 사항을 요청할 수 있으며 요청된 사항에 대해 담당교수 또는 장애학생지원센터를 통해 지원받을 수 있습니다.

According to the University regulation #57, students with disabilities can request special accommodation related to attendance, lectures, assignments, and/or tests by contacting the course professor at the beginning of semester. Based on the nature of the students' requests, students can receive support for such accommodations from the course professor and/or from the Support Center for Students with Disabilities (SCSD).

- * 강의계획안의 내용은 추후 변경될 수 있습니다.
- * The contents of this syllabus are not final—they may be updated.