**Air Pollution and Climate Change**

**Coordinator: C. Matsoukas and C. Pilinis**

**Name of lecturers :** Christodoulos Pilinis, Christos Matsoukas

**ECTS credits :** *2*

**Duration:** May, 2019

**Pre-requisites:** Basic knowledge in Physics and Chemistry

**Course e-learning site:** [https://aegeanmoodle.aegean.gr](https://aegeanmoodle.aegean.gr/)

**Aims, Objectives and Learning Outcomes**

The course aims to provide knowledge and understanding of the physical and chemical processes

that drive atmospheric pollution, greenhouse gases concentration increases, and climate change.

Because of the interdisciplinary background of students, these processes will be examined on the

introductory level. The scope of the course will cover all ground from local to planetary problems.

During the first week, we will focus more on local and regional air quality. The second week is

devoted to climate change, its physicochemical mechanisms, timescales and impact based on

various scenarios. During the third week, the students will work in groups on small projects. The

instructors will organize workshops for the groups. The projects will produce a written report and

an oral presentation on the final day.

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| **Learning Outcomes** | **Assessment** | **Activities** | **Estimated Workload** |
| * Understanding of the basic air pollutants, their sources and interaction in the atmosphere * Understanding of the sources of atmospheric particles, their influence on health and climate * Basic understanding of the complexity of the climate system * Understanding of why climate has changed in the past and how these changes are related to current ones * Understanding of the natural and anthropogenic influences on the climate system for various time-scales | Students will be graded based on:   * 50% from an exam at the end of week 2 * 35% from the written project report * 15% from the presentation evaluation at the end of week 3 | In-class activities  (lectures, seminars)  Self-study and independent work (reading)  Group assignment | 20h  18h  12h |
| Total hours |  |  | 50h |

**Additional information including a full description of course assessments, schedule, and readings can be found in the full course syllabus located in at the course’s e-learning site.**