



UNIVERSITY OF JORDAN
School of Engineering
Chemical Engineering Department

- 1. Course Number and Name:** 0915573 Air Pollution and Control
- 2. Course Prerequisite:** 0915471 Environmental Engineering
- 3. Credits, Contact Hours and Categorization:** 3 Credit hours, 3 Contact hours weekly, Elective Engineering course.
- 4. Syllabus URL:** <https://elearning.ju.edu.jo/moodle10/course/view.php?id=5706>
- 5. Instructors Name:**
- 6. Textbook:** De Nevers, N. Air Pollution Control Engineering, 3rd Edition, McGraw-Hill, 2017.

References:

- 1) Vallero, D. Fundamentals of Air Pollution, 5th edition, Elsevier, 2014.
 - 2) Cooper, C. D. and Alley, F. C. Air Pollution Control - A Design Approach, 4th edition, Waveland Press, 2010.
 - 3) Course Notes and Handouts
- 7. Live Stream Platform:** Microsoft Teams
- Live Stream URL:**
- <https://teams.microsoft.com/l/channel/19%3a5300de92a300403a9ac2c68695d7ba71%40thread.tacv2/General?groupId=75c71f06-8cac-4fcd-9a3d-eb0da99bcd47&tenantId=05405dba-373c-4e20-a30e-3e6fcf507cfe>

8. Specific Course Information:

- Catalog Description: Air pollutants and sources of air pollution. Air streams including stack emissions and exhaust fans. Introduction to air dispersion, Gauss model. Local and international standards for air pollutants. Wet and dry air pollution control methods. Air pollution control instruments. Air sampling and measurement of pollutants
- Prerequisite: 0915471 Environmental Engineering
- Required or Elective: Department Elective Course

9. Specific Goals of the Course:

- Specific Outcomes of Instruction:

- 1) Apply basic principles of science and engineering related to air quality engineering and science (**O1, O2**)
- 2) Be aware of the basic philosophies, regulations and standards governing air pollution control engineering (**O4**).
- 3) Use principles of meteorology and atmospheric dispersion modeling to predict the fate of air pollutants and quantitatively determine pollutant concentration (**O1**).
- 4) Develop management and engineering techniques to control gaseous and particulate air pollutants (**O2, O4**).

10. List of Topics to be Covered:

- 1) Introduction, history, impacts, control philosophies and regulations.
- 2) Air pollutant monitoring, sampling, and analysis.
- 3) Meteorology and dispersion models
- 4) General ideas of air pollutants control
- 5) Nature and control of particulate solids
- 6) Control of gas and vapor pollutants

Prepared by:

23/09/2025

ABET Criterion 3 Students Outcomes

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.