**FORMAN CHRISTIAN COLLEGE**

(A Chartered University)

**Department of Environmental Sciences**

**ENVR 404: Air and Noise Pollution**

**COURSE INFORMATION**

**ENVR 404: Air and Noise Pollution**  3 Credits

Prerequisite course: ENVR252. Environmental Pollution

**BOOKS**

# Fundamentals of Air Pollution, 5th Edition, **Author:**Daniel Vallero, Academic Press, 2014

## An Introduction to Sulfur and Nitrogen Oxides Control in Air Pollution, J. Paul Guyer, Independent Publ, 2020 (PDF)

## Environmental Noise Pollution *Sharad Gokhale (PDF)*

**COURSE CONTENT**

After a brief look at the atmospheric makeup and the physics of the atmosphere, we’ll be considering the science and the history of air pollution as an environmental problem. Then the various inherent properties of the air pollutants will be studied as well as aspects of exposure to and the human health impacts of air pollutants. There are not just human health effects to be considered but also impacts of air pollution on the environment and physical structures such as buildings and historical monuments. Then we’ll be looking at aspects of kinetics and time in the study of air pollution which is followed by the analysis of the various cycles such as the carbon, nitrogen and the sulphur cycles in the atmosphere. Part of this course is also about indoor air pollution because we spend a lot of time indoors which create their own unique challenges. The air pollution component is then finished with a closer look at all the various monitoring and control systems commonly used in the world today. Lastly noise pollution is considered. Aspects of the impact and control of noise pollution make up the bulk of the material covered.

**LEARNING OUTCOMES**

At the end of the course, students will be able to understand the role of the various air pollutants, how they are emitted and move around in the atmosphere, what impact they have on the populations and ecosystems and why they should be controlled. The students are expected to be familiar with the principal methods for the control of these pollutants in terms of theory and practice.

**COURSE EVALUATIONS**

**Assessments:** Weekly assessments will be required in which the students should demonstrate adequate understanding of the material covered in the preceding week.

**Each assessment is worth 6.7 points towards your total grade.**

**Attendance**: 75% attendance is compulsory. Points will be deducted for unexplained absence from the class (full credit for 95-100 attendance) (5 points).

**GRADING:**

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| **Grade** | **Percent Marks** | **Scale** |
| A | 93-100 | 4.0 |
| A- | 90-92 | 3.7 |
| B+ | 87-89 | 3.3 |
| B | 83-86 | 3.0 |
| B- | 80-82 | 2.7 |
| C+ | 77-79 | 2.3 |
| C | 73-76 | 2.0 |
| C- | 70-72 | 1.7 |
| D+ | 67-69 | 1.3 |
| D | 60-66 | 1.0 |
| F | 59 or below | 0.0 |

**COURSE POLICIES**

**Cheating and plagiarism**

**Due to the nature of the assessments special attention will be given to the occurrence of plagiarism.** Each assignment will be submitted to Turnitin for plagiarism checks and the result of those checks can have a significant impact on your mark. Also special attention will be given to timely submission of your work. Late submissions will be penalised.

**COURSE OUTLINE**

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| **Week** | Theme | |
| 1 | State of the Atmosphere | |
| 2 | The Physics of the Atmosphere | |
| 3 | The Science of Air Pollution | |
| 4 | Air pollution Decision Tools | |
| 5 | Life Cycle Assessment of Air Pollutants | |
| 6 | Easter/The Risks of Air Pollution | |
| 7 | The Risks of Air Pollution | |
| 8 | Tropospheric Pollution | |
|  | Eid/Spring Break | |
| 9 | Tropospheric Pollution | |
| 10 | Biochemistry of Air Pollutant | |
| 11 | Biochemistry of Air Pollutant | |
| 12 | Addressing Air Pollution | |
| 13 | Addressing Air Pollution | |
| 14 | Noise Pollution | |
| 15 | Noise Pollution | |
| 16 | Final exams start for others | |