[A-3]COURSE SYLLABUS

1. Course Description (Approximately 100 words)

This subject introduces students to the theory, knowledge and skills that are required to successfully undertake air and noise pollution investigations that may be required as part of their professional engineering practice. Students learn about the key role that engineering plays in understanding the sources and impacts of air and noise pollution, and implementing methods of control. The subject objectives are met by enabling students to master underpinning theory, develop problem-solving and communication skills, undertake research work independently and in a team, and complete laboratory investigations. The subject is delivered in two modules with the first component focusing on air pollution and the second on noise pollution.

2. Course Goals and Objectives (Approximately 100 words)

Upon successful completion of this subject students should be able to:

1. Apply the theory of air and noise pollution to practical engineering situations.
2. Use engineering instrumentation and principles to undertake a laboratory investigation in both air and noise pollution.
3. Explain global air pollution problems such as climate change and stratospheric ozone depletion.
4. Communicate professionally in both oral and written formats, both individually and in a team environment.
5. Perform problem-based research activities both individually and as part of a team.

3. Textbook (Title, Author, Publisher, Year of Publication, etc.)

De Nevers N. Air Pollution Control Engineering, McGraw-Hill (ISBN 0-07-0393667-2).
Bies DA and Hansen CH, Engineering Noise Control, E&FN Spon (ISBN 0-419-20430-X).

4. Reference

De Visscher A. Air Dispersion Modelling, Wiley (ISBN 978-1-118-07859-4).
Eager D. Dictionary of Acoustic and Noise Pollution, McGraw-Hill, 2010 [ISBN 978 0 3903 2556 3]

5. Course Requirements and Grades

CAT 30%
EXAM 70%

6. Course Calendar

Week	Main Content
1	Definition of clean air – Source and Classification of Air Pollutants – Physioc
2	Unit Measurement of Pollutants -Sampling Techniques – Effects of Air Pollut
3	Fundamentals of Metrology – Wind Roses- Atmospheric Stability
4	Atmospheric Diffusion Theories – Plume rise – Gaussian Diffusion Model.
5	AIR POLLUTION CONTROL TECHNOLOGIES:Mobile Sources,Stationary S
6	Air quality standards – Air quality monitoring – Air Pollution indices
7	Air Pollution Control efforts– Zoning – Town Planning
8	Regulation for New Industries, Legislation and Enforcement
9	Noise Pollution:Poor Urban Planning,Social Events,Transportation,Construc
10	Effects of Noise Pollution:Hearing Problems,Health Issues,Sleeping Disorde
11	FUNDAMENTALS OF NOISE:Sound Measurement,Phons and Sones,SOUI
12	The National Environment (Noise Standards And Control)Regulations, 2003
13	Revision
14	EXAMINATION