NATIONAL INSTITUTE OF TECHNOLOGY TIRUCHIRAPPALLI

Course Title	Environmental Engineering And Pollution Control
Couse Code	EN603
Department of Energy and Environment	
Pre Requisite for the Course	Nil
Course Handled By	Prof.G.Swaminathan
Course Type	Core
Semester	I Semester M.Tech.
Section	-

Course Overview

The Students will be imparted awareness about the environment, availability of fresh water in the planet, dwindling of these natural resources, Water and Air Quality, treatment and Control Methods, Noise pollution, Solid Waste management, Toxic Waste management, Comfort and living Standards

Course Objectives

The student will be able to gain knowledge on water, fresh water availability in the planet, water resources quality criteria, treatment systems design and distribution system. Students will be exposed to practical problems related to water supply by in –situ training in water supply systems of NIT Tiruchirappalli.

Course Outcomes (CO)

1. Students will gain knowledge in Environmental Pollution, Mass and Energy Balance, Water Quality Criteria, BIS Standards, Quality parameter measurements.
2. Students will be imparted knowledge of design of treatment systems and Control Methods in Air, Water and Land Environment
3. Awareness about laws and standards in Air and Water Quality.
4. The students will know about Indoor air quality, Noise, Comfort and Climate, Natural and Artificial Lighting
5. The students will learn about general environment hygiene, Solid waste Disposal and Toxic and Hazardous waste management.

COURSE TEACHING AND LEARNING ACTIVITIES

Sl.No	Week	Topic	Mode of delivery
1.	Week 1	Principles of Environmental Pollution, Natural and anthropogenic sources, Primary and secondary pollution, Water Quality criteria, Effluent and Stream Standards.	Lecture mode
2.	Week 2	BOD, COD and its measurements, I Stage BOD, Laboratory Determination.	Lecture mode and Tutorials
3.	Week 3	Water resources, Surface and Sub Surface source, Treatment methodologies, Primary and Secondary Treatment, Disposal-Introduction to Solid waste management	Lecture Mode and Tutorials
4	Week 4	Settling theory, Stoke's law, Newton's law. Discrete and flocculent settling, Optimum dosage determination. Influence of critical parameters on settling Biokinetics and its application-Sanitary land fill in solid waste disposal	Lecture Mode and Tutorials
4.	Week 5	Disposal of Effluents in Land and Water bodies-Issues in Land and Water bodies disposal	Lecture Mode and Tutorials
5.	Week 5	. Problems relating to disposal of waste in streams, Streeter Phelps model Its application-Sources and classification of Solid waste-Segregation at source	Lecture mode and Tutorials
6.	Week 6	Cycle Test I	Test
7.	Week 7	Introduction to Air Pollution-Primary and secondary pollutants. Effects of air pollution on Life, property and economy	Lecture mode
8.	Week8	Measurements of air quality, Ambient and Stack sampling, Influence of atmospheric stability on dispersion	Lecture Mode and Tutorials. Field demonstration
9.	Week 9	Ventilation coefficient, Gaussian Plume models, air pollution control equipments-toxic and hazardous waste	Lecture Mode and Field demonstrations.
10.	Week 10	Air pollution Act and Standards	Lecture mode
11.	Week 11	Cycle Test II	Test
12.	Week 12	Indoor air quality, Ventilation Control	Lecture mode and Tutorials
13	Week 13	Noise Pollution, decibel, decibel addition, Noise control	Lecture mode and Tutorials
14.	Week 14	Final End semester Examination	Examination

COURSE ASSESSMENT METHODS				
Sl.No	Mode of Assessment	Week/date	Duration	% Weightage
1.	Assignments/Tutorials/Quiz	Before Cycle Test I And II	Then And There Evaluation	10
2.	Mid Semester Cycle Tests I And II	Week 6 and Week 11	Sixty Minutes	40(Two Cycle Tests of 20% each)
3.	Group Task(2 to 3 students in a group)	Week 13	30 Min per team	10
4.	End Semester Examination	Week 14	3 h	40

Reading Material suggested

1. Rao C S Environmental Pollution Control Engineering, II Edition New Age International Publishers 2005
2. Gilbert M Masters Introduction to Environmental Engineering and Science II Edition Prentice Hall 1998
3. Howard S Peavy Donald R Rowe and George Tchobanoglous Environmental Engineering McGraw Hill International Edition.
4. Bishop P Pollution Prevention Fundamentals and Practice, McGraw Hill International Edition.

Course Exit Survey

Feedback forms will be collected from the students in the Week 12 in a sealed cover with the help of the Class representative and handed over to the competent authorities.

Course Policy

1 Attendance during the assessment days is compulsory.75 % attendance is mandatory to attend End semester examination. It is the duty of the faculty to compensate the classes which are cancelled due to some reasons are what so ever
2. On duty –Participation is limited to 25 % of total classes conducted-approving authority is the HoD/DEE.
3. Appellate/Redressal Authority is HoD/DEE in case of dispute/grievance.
4. The grading policy is same as the guidelines and given in M.Tech. regulations of NIT Tiruchirappalli

Contact Information

The course handling faculty can be contacted in his room No. 26 in Civil Engineering Department, Office of the Dean (P&D) .Intercom No.3159.3023 and 3146.

His E Mail is gs @nitt.edu

For Consideration of Senate NIT Tiruchirappalli.

Course Faculty

Class Committee Chairperson

HoD/DEE