## Course Number and Name

# **BCE068 - INDOOR AIR QUALITY**

#### Credits and Contact Hours

#### 3 & 45

Course Coordinator's Name

## Dr M.P.Chockalingam

Text Books and References

## **REFERENCES:**

- Thaddes Godish, Indoor air and Environment Quality, CRC press,2000.
- Nazaroff W.W and L Aivarez-Cohen, Environmental Engineering Science Wiley Sons, New York, 2001.
- Moroni Marco , Seifet Bernd and Lindrall Thomas, Indoor Air Quality: A Comprehensive Reference Book, Elsvier Science .Vol.3,1995.

Course Des	cription											
To bring ab	out an under	rstanding	g of the	prefabrio	cation a	nd const	ruction	techniqu	ies adop	ted		
Prerequisites						Co-requisites						
Environmental Studies						NIL						
		require	ed, elec	tive, or s	selected	elective	(as per	Table 5	-1)			
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Course Out		<i>.</i>		1.1.6	1 .	1 ( )					<u> </u>	
CO1	To make them understand the fundamentals of Design and operation of buildings for											
	improvements of public health associated with indoor air quality											
CO2 To understand about the air pollutants in indoor environments and its characteristic											cs,	
	consequen	ices										
CO3 To understand in detail about the classification and control of pollutants and									nd case	studies		
	associated											
CO4	To improve the knowledge on the Concepts and tools in indoor air quality along with the											
	statistical	models a	ssociate	ed with i	t.							
CO5	To know a	about the	basics	of the In	idoor air	pollutio	on from	outdoor	sources	•		
Student Out	comes (SOs	s) from C	riterion	3 cover	ed by th	is Cour	se					
COs/S		b	c	d	e	f	g	h	i	j	k	
CO	1 H						М		Н			
CO	2 M	Н		М					Н			-
CO	3 H										Н	-
CO	4 H								М			-
CO	5	М				Н			Н			-
List of Top	oics Covere	ed										

#### UNIT I INTRODUCTION

Indoor activities of inhabitants – residence time. Levels of many pollutants in indoor and outdoor air. Design and operation of buildings for improvements of public health.IAQ policy issues: Sustainability; indoor air quality as a basic human right

## UNIT II INDOOR AIR POLLUTANTS

Air pollutants in indoor environments, private residences, offices, schools sand public buildings, factors that govern pollutant indoors concentrations, including ventilation. Characteristics, Consequences.

#### UNIT III CONTROL OF POLLUTANTS

Control of several pollutant classes, such as radon ,toxic organic gases, combustion byproducts, and microorganisms such as molds and infectious bacteria. Case study by an exploration of public policy related to indoor air.

## UNIT IV CONCEPT AND TOOLS

Concepts and tools: exposure, material-balance models, statistical models ventilation.

## UNIT V INDOOR AIR POLLUTION FROM OUTDOOR SOURCES

Indoor air pollution from outdoor sources: particulate matter and ozone ;Combustion byproducts; Radon and its decay products. Volatile organic compounds: odors and sick-building syndrome, Humidity Bioaerosols: infectious disease transmission. Special indoor environments: A/C units in indoor: museums -labs; Measurement methods, Control Technologies, Control strategies.

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