

About The Course

Physical and chemical processes have been widely used for water and wastewater treatment. The principles of physical and chemical treatment processes are very important and critical in design, engineering practice and problem solving. However, the topics related to physical and chemical treatment processes are traditionally taught by linking them with either drinking water or wastewater treatment, and material covered are often either too simple or too complicated. Therefore, it is often difficult for students to gain a comprehensive picture of the related principles.

This course will introduce key concepts and major topics of physical and chemical treatment processes, including reaction kinetics, mass balance, reactor fundamentals, water and wastewater quantities and quality, process flow sheets, preliminary treatment unit operations, coagulation/flocculation, separation technologies (e.g., sedimentation, filtration, membrane processes), sorption/ion exchanger, mass transfer, oxidation/reduction, and photolysis/ photocatalysis processes. Design of physical and chemical treatment processes along with case studies.

Who Can Attend

- Executives, engineers and researchers from manufacturing, service and government organizations including R&D laboratories.
- Students at all levels (B.Tech/MSc/M.Tech/PhD).
- Faculty from reputed academic institutions and technical institutions.

Brief Profile of Resource Person

Dr. Tian C. Zhang is Professor in the department of Civil Engineering at the University of Nebraska-Lincoln (UNL), USA. Professor Zhang teaches courses related to water/wastewater treatment, remediation of hazardous wastes, and non-point pollution control. Professor Zhang's research involves fundamentals and applications of nanotechnology and conventional technology for water, wastewater, and storm water treatment and management, remediation of contaminated environments, and detection/control of emerging contaminants in the environment. Professor Zhang has published more than 106 peer-reviewed journal papers, 62 book chapters and 12 books since 1994. Professor Zhang is a Diplomate of Water Resources Engineer (D.WRE) of the American Academy of Water Resources Engineers, Board Certified Environmental Engineers (BCEE) of the American Academy of Environmental Engineers, Fellow of American Society of Civil Engineers (F. ASCE), Fellow of American Association for the Advancement of Science (F.AAAS), and Academician of European Academy of Sciences and Arts (EASA). Professor Zhang is an Associate Editor of *Journal of Environmental Engineering* (since 2007), *Journal of Hazardous, Toxic, and Radioactive Waste* (since 2006), and the managing editor of *Water Environment Research* (since 2008). He has been a registered professional engineer in Nebraska, USA since 2000. He has received awards/honors from various professional organizations.

INTERNATIONAL COURSE

Under

GLOBAL INITIATIVE OF ACADEMIC NETWORKS (GIAN)



**PHYSICAL-CHEMICAL PROCESSES
FOR WATER AND WASTEWATER
TREATMENT
(AUGUST 21-26, 2017)**

Course Coordinators

Dr. V. Subbaramaiah
Dr. U. K. Arun Kumar
Dr. K. Venkataratnam Kamma

**Organized By
Department of Chemical Engineering
Malaviya National Institute of
Technology, Jaipur**

About Department

The Department of Chemical Engineering was commenced in the year 1988. The PG Programmes of M.Tech. in Chemical Engineering and Ph.D. was started in year 2006 and 2004 respectively. The current sanctioned strength of the B.Tech. Chemical Engineering Program and M.Tech. Chemical Engineering Program is 100 and 25 respectively for Full time Courses. The Department is well equipped with good undergraduate laboratories and research laboratories. The Department aims to provide students with a balance of intellectual and practical expertise that enables them to serve the worldwide chemical industry as well as the societal needs. The curriculum has been designed to meet the programme goals and objectives that lay more stress on learning under the guidance of a vibrant and highly qualified faculty.

About Climate

Jaipur is a lively and vibrant city in the state of Rajasthan and is situated in Northern India at a distance of around 265 km from Delhi. Jaipur offers a multitude of interesting places and tourist attractions. There are several magnificent palaces and forts such as the Hawa mahal, Amber fort, Jaigarh fort, Nahargarh fort, Jal mahal, City place, Jantar Mantar etc., which are situated at the heart of the city. It is a city of fun, food and festivals. It is well known as the "Pink City" which is a heady mix of tradition and modernity. Jaipur is very well connected to other parts of the country through air, rail and road. The weather of Jaipur in the month of August is pleasant, and the temperature in the day time remains between 24 to 34 °C.

Local Accommodation

Accommodation at the Institute Guest houses will be available on payment basis. The details regarding boarding and lodging are as follows:

Rates:

Guest House 1 (Limited capacity): (Single occupancy, double-bedded a/c room): Rs. 750/- per day.

Guest House 2: (Single occupancy, double-bedded a/c room): Rs. 550/- per day.

Aurobindo Boys Hostel: (Single occupancy, double-bedded non a/c room): Rs. 100/- per day.

Gargi Girls Hostel: (Dormitory): Rs. 100/- per day There are many good fair price lodging facilities available nearby the campus.

GIAN Portal Registration:

Step-1: One Time Web Portal Registration

Create login and password at <http://www.gian.iitkgp.ac.in/GREGN/index> login and complete the Registration Form and pay Rs. 500/- (non-refundable, GIAN Portal Registration Fee) through online payment gateway. After Payment select this course from the listed GIAN courses.

Step 2: Institute Registration

The registration form for this course can be found along with this brochure. The soft copy of brochure can be download from the institute website www.mnit.ac.in (GIAN portal). Participants are requested to fill the registration form and send to the course coordinator along with course registration fee below address. The registration fee details are listed below:

Students (UG, PG, and PhD)	Rs. 1000
Academicians	Rs. 2500
Industry and Research	Rs. 2500
Participants from Abroad	US \$ 100

Participants are requested to send a Demand Draft in favor of "REGISTRAR (SPONSORED RESEARCH) MNIT Jaipur" payable at Jaipur with a print out of the filled in Registration form, by Courier/ Speed Post/ Registered Post before 20 August 2017 to: **Dr. V Subbaramaiah, Assistant Professor, Department of Chemical Engineering, J.L.N. Marg, MNIT, Jaipur-302017, Rajasthan, India.**

Or

You may email a scanned copy of the DD and the signed registration form by the deadline to Dr. V. Subbaramaiah at vsr.chem@mnit.ac.in

Physical-Chemical Processes for Water and Wastewater Treatment

21st-26th, August 2017

Under

Global Initiative of Academic Networks (GIAN)
Ministry of Human Resource Development
Govt. of India

REGISTRATION FORM

Name.....

Category (Academic/Student/Industry/R&D)
.....

Designation:

Department:

Institution:

Town/City:

Country:

E-mail:

Mobile No:

Registration Fee:

Payment by DD in favor of "REGISTRAR, MNIT JAIPUR" payable at Jaipur.

Cash/D.D. No.:

Date:

Signature