



# ENVIRONMENTAL REMEDIATION OF CONTAMINATED SITES

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Department of Civil Engineering  
IIT Roorkee

**TYPE OF COURSE** : Rerun | Elective | UG/PG

**COURSE DURATION** : 12 weeks (24 Jan' 22 - 15 Apr' 22)

**EXAM DATE** : 24 Apr 2022

**PRE-REQUISITES** : Entry level chemistry course, and understanding of chemical, physical and biological processes on Environmental Engineering

**INTENDED AUDIENCE** : Environmental engineering professionals and students pursuing a degree with emphasis in Environmental engineering.

**INDUSTRIES APPLICABLE TO** : CPCB, SPCB, Degremont, ERM, Ramky Enviro Engineers, Veolia Water, SFC Environmental Technologies Pvt. Ltd., Nalco Water, VA Tech Wabag, Thermax

**COURSE OUTLINE :**

The course details the usual remediation techniques practiced worldwide and provide an understanding of the relevant theoretical concepts. The current course will enable a student to:

- Develop understanding of integrated approaches to remediating contaminated sites.
- Develop the ability to screen, choose and design appropriate technologies for remediation.

**ABOUT INSTRUCTOR :**

Prof. Bhanu Prakash Vellanki, is an Assistant Professor at IIT Roorkee. He holds a PhD in Civil Engineering with a specialization in Environmental Engineering from Texas A&M University. During the course of his doctoral work, Dr. Vellanki developed a new class of treatment processes, called the Advanced Reduction Processes. His research interests include Advanced Redox Processes, industrial/hazardous waste treatment, and emerging contaminants.

**COURSE PLAN :**

**Week 1:** Introduction

**Week 2:** Laws, Regulations and Remediation

**Week 3:** Risk Assessment

**Week 4:** Remedial Options:Introduction

**Week 5:** Administrative Options

**Week 6:** Groundwater

**Week 7:** Soils/Sediments

**Week 8:** Solidification/Stabilization

**Week 9:** Chemical Treatment

**Week 10:** Bioremediation

**Week 11:** Phytoremediation

**Week 12:** Thermal Processes,Soil Washing