

**Short Term Course
On**

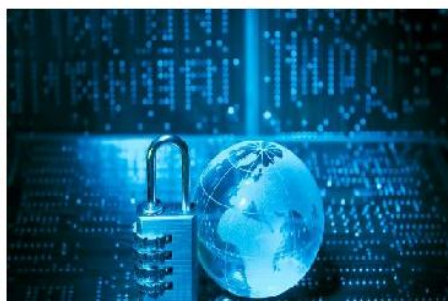
Coding Theory and Cryptography: Fundamentals and Applications

26-30 June, 2017

Organized by



**Department of Computer Science and Engineering
Indian Institute of Technology (Indian School of Mines)
Dhanbad-826004, Jharkhand, India**



Aim:

The course materials would be presented in research oriented manner so that the participants may organize themselves for future research in the field of Coding Theory and Cryptography.

Programme Objective:

The following objectives will be achieved by participants after successfully completing this course.

- To understand the need of coding theory and cryptography during data transmission over the public communication channel.
- To become familiar with the ideas of coding theory and cryptography along with hands-on session in MATLAB environment.
- To comprehensive understanding with some research issues.

Programme Contents:

Introduction to Information Theory: Overview of the course, Information theory.

Source Coding: Prefix codes, Lempel-Ziv coding, Burrows–Wheeler Transform, Source coding in data, image, audio, and video applications.

Channel Coding: Linear Block Codes, Cyclic Codes, BCH Codes

Cryptography: Symmetric Encryption techniques, Public-key encryption Techniques, Key Management

Applications: Coding theory based Digital watermarking, Various Image Cryptosystems

Course Instructors:

Faculty members from IIT (ISM) Dhanbad and some guest speakers from other reputed institutes will take the classes.

Target Participants and Eligibility Criteria

Other academic institutions: Faculty members, Research Scholars and Postgraduate students.

IIT(ISM) Dhanbad: Postgraduate, Research Scholars and Faculty Members. (Internal Participants strength will be maximum 25% of total participants.)

Others: Employees of Govt., Public and Private sector having at least a graduate degree holder.

Date and Venue

June 26-30, 2017, at Indian Institute of Technology (ISM), Dhanbad.

About Location

IIT(ISM) Dhanbad is well connected by rail and road. The institute is located at a distance of about 3 KMs from Dhanbad Railway Station in Jharkhand State.

About IIT (ISM) Dhanbad

IIT (ISM) Dhanbad, a fully residential institute is situated in Jharkhand, India and it was established in 1926 on the model of Royal School of Mines, London. Apart from earth and mineral science departments of national and international reputation, the institute has expanded with diverse branches in engineering including Computer Science and Engineering, Electronics Engineering, Electrical Engineering, Mechanical Engineering, and also Master of Business Administration. To know more about the Institute, please visit at: <http://iitism.ac.in/>

About Department

The Department of Computer Science and Engineering was established in the year 1997 to keep abreast with the recent technological advancements in the field of Computer Science and Information Technology. The Department has presently 15 faculty members with various teaching and research expertise in the field of Computer Science. To know more about the department, please visit at http://iitism.ac.in/index.php/computer_science

Registration Fee

Category	Course Fee (₹)
M.Tech Students	4000 + Service Tax (15%)
Research Scholars	6000+ Service Tax (15%)
Faculty members and Scientists	9000+ Service Tax (15%)
Employees from Govt., Public and Private sector	15000+ Service Tax (15%)

Note: The course fee does not include charges for meals and accommodation.

Instructions

- Registration will be on a first come first served basis and limited number of seats are available.
- The registration fee may be paid in the form of Demand Draft in favour of “**Registrar, IIT (ISM), Dhanbad**” payable at Dhanbad.
- Participants are requested to send the scanned copy of the filled in Registration Form and the Demand Draft via E-mail in order to confirm the participation.

Contact Details

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Dr. Sachin Tripathi, Course Co-Coordinator
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**Short Term Course on
Coding Theory and Cryptography: Fundamentals and Applications**

(26-30 June, 2017)

REGISTRATION FORM

Name: _____

Designation: _____

Organization: _____

Gender: _____

Educational Qualification: _____

**Address for
Correspondence:** _____

Mobile No: _____

E-mail ID: _____

Accommodation Required: (Yes/No): _____

Experience: _____

Teaching: _____

Others (Specify): _____

Details of Demand Draft (DD):

Amount: _____

DD Number: _____

Date: _____

Date:

Signature of Applicant