

## Syllabus

### Module 1 : Foundations of Image and Video Processing.

Sl. No.	Lecture Description
1	Introduction to Digital Image Processing
2	Imaging Fundamentals
3	Fundamental Pixel Operations
4	Contrast Enhancement
5	Edge Detection
6	Image Transforms
7	Image Restoration
8	Image Segmentation
9	Morphological Operators
10	Texture Analysis
11	Visualization

**Laboratory Sessions**

### Module 2 : Advanced Image and Video Processing

Sl. No.	Lecture Description
1	Introduction to Video Processing
2	Coding Fundamentals
3	Motion Estimation
4	Image and Video Processing Architectures
5	Image and Video Coding Standards
6	Image Pattern Classification
7	Image Database
8	Medical Imaging
9	Multimedia Networking
10	Image Surveillance

**Laboratory Sessions**

## Speakers

Sl. No.	Name
1	Prof. A K Ray, Dept. of E & ECE
2	Prof. P K Biswas, Dept. of E & ECE
3	Prof. S Sengupta, Dept. of E & ECE
4	Prof. S Mukhopadhyay, Dept. of E & ECE
5	Prof. M Chakraborty, Dept. of E & ECE
6	Prof. I Chakraborti, Dept. of E & ECE
7	Prof. T K Basu, Dept. of EE
8	Prof. S Sural, School of IT
9	Prof. S K Ghosh, School of IT
10	Prof. A K Majumdar, Dept. of CSE
11	Prof. J Mukhopadhyay, Dept. of CSE
12	Prof. B N Chatterji, Rtd. Dept. of E & ECE



## Connectivity:

**Location:** IIT Kharagpur is located about 5 Km from Kharagpur railway station and about 116 Km from Kolkata.

**Air:** Netaji Subash Ch. Bose International airport, Kolkata is the nearest airport. Those traveling by air may take a taxi from Kolkata airport to IIT Kharagpur (2.5 hrs. drive at a cost of around Rs 1600/-).

**Rail:** Kharagpur has rail links with most major cities in India. It is conveniently connected to Kolkata through Howrah railway station by numerous Local & Express trains. Timetable available in IIT Kharagpur website (<http://www.iitkgp.ac.in>).

**Local:** Taxi service is available from Kharagpur railway station to IIT Kharagpur for Rs 70/- to Rs. 80/- only. Auto-Rickshaw and Rickshaw service is also available from Kharagpur railway station to IIT Kharagpur for Rs 40/- and Rs 30/- respectively.

## General Information:

Situated at a distance of 116 Km from Kolkata, the 'City of Joy', Kharagpur welcomes you with its longest railway platform in the world (1072.5 meter). In the month of February through March Kharagpur experiences bright sunny morning with pleasantly warm weather. The green, calm and quiet campus will charm you. Each of the campus guesthouses is equipped with the inhouse canteen facility. In addition there are few garden restaurants and food joints in and nearby campus. There are nearby places of interest to visit. The IIT Kharagpur started its journey in the "Hijli Detention Camp". The old building was later renamed as "Hijli Saheed Bhawan" to commemorate the martyrdom of two freedom fighters at "Hijli Detention Camp" in September 16, 1931. Presently it houses a Science and Technological Museum named as **Nehru Museum of Science and Technology**.

The sea beach of Digha is 120 km away from Kharagpur. The beach town is famous for flat and hard beaches. The sea is calm and shallow for about a mile from the beach.

## Contacts:

**For any queries please contact:**

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India 721302

Prof. S Mukhopadhyay, Coordinator,  
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Phone : +91-3222-283568

Prof. S. Sengupta, Co-Coordinator,  
Email : ssg@ece.iitkgp.ernet.in  
Phone : +91-3222-283548

## Registration Form

Name of the Applicant (In Block Letters)

Designation: \_\_\_\_\_ Sex (M/F) \_\_\_\_\_

Educational Qualification: \_\_\_\_\_

Address for Communication:

E-mail: \_\_\_\_\_

Fax: \_\_\_\_\_ Tel: \_\_\_\_\_

Category of Applicant: AICTE / Sponsored \*

Course(s) Choice: BOTH / MODULE-I / MODULE-II

If your choice is not available are you interested in other Module? YES / NO

Is Accommodation required? YES / NO

Choice of Accommodation: AC / Non-AC / Single / Shared (Please Specify)

Name of the Sponsoring Institute/Organisation:

If applying for concession? YES / NO  
(Please Specify) \_\_\_\_\_

Demand Draft Amount: Rs \_\_\_\_\_

Demand Draft No. \_\_\_\_\_

Bank: \_\_\_\_\_

Date: \_\_\_\_\_

Signature of the Applicant

\* For AICTE sponsored candidates both the modules are compulsory.  
Attach proof of AICTE approval/declaration from HOD/Head of Institute.

# Short Term Course on Image & Video Processing



Feb 19-Mar 02, 2007

Department of Electronics & Electrical  
Communication Engineering  
Indian Institute of Technology  
Kharagpur - 721302  
INDIA

## Introduction

The research on Image Processing and Computer Vision started in the Department of Electronics and Electrical Communication Engineering, IIT Kharagpur in early seventies. Over the last three decades we have witnessed an all-pervasive growth of the science and technology of Computer Vision. IIT Kharagpur has followed this advancement and continued to make its own contribution towards the teaching as well as research and collaborative development in this domain. To share our competence with technology hungry organisation / individuals we have designed a two module short-term course. This two week long comprehensive training consists of theory followed by hand-on sessions. The course is divided in two modules, **Module-I: Foundations of Image and Video Processing, Module-II: Advanced Image and Video Processing.** The first module is designed for those who intend to get acquainted with Image Processing or are interested to update their knowledge with recent developments. Module-I also serves as prerequisite for Module-II. The second module is designed for the practitioners working in the frontier of technology. Along with training this course provides a venue for professional interaction, which will lead to useful research collaboration with participating organisations.



## Important Dates

Last date for Registration : 19 Jan 2007 (Friday)

### Course Duration :

Module I: (Week 1: Feb 19-23, 2007)  
[Monday – Friday]

Module II: (Week 2: Feb 26-Mar 2, 2007)  
[Monday – Friday]

## Registration Fees

Module I : Rs. 10,000/-

Module II : Rs. 15,000/-

### Concessions:

1. Teachers from AICTE approved Engineering colleges/Institutes need not pay registration fees (if attending both modules).
2. For attending both the Modules : 20% (of total course fees)
3. Corporate discount (for 5 or more participants in a module) : 20%

**N.B.** Only one discount will be applicable on fees. Candidates qualifying for multiple discounts can go for the one, which gives maximum benefit.

### Accommodation:

Accommodation is available in Vishveswaraya Guest House (VGH) on personal payment basis. The charges are as follows:

Daily Charges: Rs 60/-per bed + taxes as applicable (non-A/C shared room)

On prior intimation we will try to arrange special accommodation with the corresponding charges.

### Eligibility for Participation:

Research Personnel in R&D Organisations / Scientific Officers and Engineers working in cutting-edge technology from industries/Faculty of educational institutes can apply for this training course. Anyone actively working in the area of image or video processing and computer vision can benefit from this course. Those who are planning for challenging assignment in this area may also register for the above course.

### How to Apply:

Interested persons may apply in the format given herewith along with the registration fee. Payment should be made through a demand draft, in favor of 'CEP STC, IIT Kharagpur', payable at Kharagpur & the application should be sent to the coordinator on or before the last date. For AICTE sponsorship attach proof of AICTE approval/declaration from HOD/Head of Institute.

The number of seats in each course is limited. Total no of seats are limited to about 60 out of which 30 are reserved for the AICTE candidates, while the rest are open to industries, research laboratories and non-AICTE sponsored teachers. For more details visit <http://www.iitkgp.ac.in/topfiles/stc.php>

