

भारतीय प्रौद्योगिकी संस्थान खड़गपुर  
Indian Institute of Technology  
Kharagpur



**Short Term Course**

**On**

**CNC Machining with Advanced CAD-CAM  
applications**

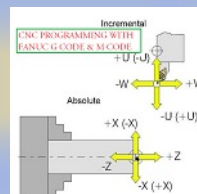
Duration: 5 days

(January 04 – 08, 2019)

**Venue: CNC Room, CWISS**

**Organized by**

**Central Workshop & Instruments Service Section  
Indian Institute Technology, Kharagpur 721302**



## OBJECTIVES OF THE COURSE

The primary objectives of the course are as follows:

- i) Exposing participants to the fundamentals of different types of CAD and CAM software.
- ii) Exposing the participants to different types of CNC machines and their uses in the manufacturing field.
- iii) Enhancing the capability of the participants to make models using CAD-CAM application and their supporting software.
- iv) To make them aware of the theory of Solid modelling and cutter path generation.

## COURSE SCHEDULE AND METHODS

**9 am to 6 pm with 1-hour lunch break in each day.**

The course would consist of lecture sessions, instruction sessions, discussions on problems and practical sessions.

## ELIGIBILITY


**Category -1 (Teaching Faculty from AICTE approved Colleges):**

Teachers of AICTE approved degree level Engineering Colleges only.

**Category – 2 (Non-AICTE/QIP Faculty/Student / Industry / others):**

- B. E. / B. Tech.( Final year-eligible) /AMIE/Diploma in Engineering/ or any higher qualification in relevant field.
- Persons from Industries & Govt. Organizations related in this field are also eligible.
- Teachers, Technical staff, Students (final year) of Non-AICTE approved college.

## COURSE CONTENTS

| Sl. No | DESIGN COURSE  | TOOL COURSE Related the design course | ROOM        | Days Wise                       |
|--------|--|---------------------------------------|-------------|---------------------------------|
| 1      | <p><b>AUTO CAD</b></p> <p><b>Introduction to AutoCAD Course:</b> Introductory courses provide students with a basic knowledge of AutoCAD's interface, menu options, toolbars and operational commands; basic skills include drawing, editing, layering and plotting.</p> <p><b>Intermediate AutoCAD Course:</b> These can include hatching, dimensioning, cross-references, and tables and block attributes. Students also be introduced to 3D designs and related drafting skills in preparation for advanced AutoCAD training.</p> <p><b>Advanced AutoCAD Course:</b> Advanced AutoCAD courses focus on 3D designs, as well as the required navigation and modeling tools used to create 3D drawings with photo realistic rendering. Courses are also included practice session with step by step guide.</p> |                                       |             | 4 <sup>th</sup> January, 2019   |
| 2.     | <p><b>SOLID WORKS</b></p> <p><b>Introduction &amp; Advance course:</b> How to build parametric models of Parts and Assemblies, and how to make Drawings of those Parts and Assemblies. 3D sketching &amp; 3D sketching with plane, Special features like Mould design etc, Toolbox basic knowledge. Photo view 360- Rendering. Courses are also included practice session with step by step guide.</p>   |                                       |             | 5-6 <sup>th</sup> January, 2019 |
| 3.     | Lecture of Prof. A. Roy Choudhury [ Senior faculty of Mechanical Engineering, IIT Kharagpur]: Lecture on “Free form surface modeling and CNC machining.”   |                                       |             | 6 <sup>th</sup> January, 2019   |
| 4.     | CNC Turning Programming & pre-process simulation checking with<br>(i) FANUC-G&M Code.<br>(ii) CAD-CAM : WinNC EMCO   | CNC (Lathe) Operation                 | Turning M/c | 7 <sup>th</sup> January, 2019   |
| 5.     | CNC Milling Programming & pre – process simulation checking with CAM Software-Roland SRP Player  | CNC Milling operation                 | 4-AXIS M/c  | 7 <sup>th</sup> January, 2019   |
| 6.     | Tool path programming & simulation for <b>CNC Wirecut EDM Machine</b> using ELCAM – CAM software.  | CNC Wire Cut EDM machine operation.   |             | 8 <sup>th</sup> January, 2019   |
| 8.     |  <p>Creating NC Program for various complex shapes 3D Solid Model in different planes using <b>Autodesk Power MILL Software</b>.</p>  | 5-Axis Milling operation              | CNC m/c     | 8 <sup>th</sup> January, 2019   |

*Note: The course material will helps in advancing the frontiers of the software.*

## Principal Co- Ordinators

### Professor A. Roy Choudhury

Principal Co-ordinator

Chairman, CWISS

IIT Kharagpur 721 302, West Bengal, India

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## Contact Person

### Dr. Suprakash Patra

AWS, CWISS

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+91 9474897835

Email: [spatraiitkgp@yahoo.in](mailto:spatraiitkgp@yahoo.in)

### Mr. Santanu Das

Tech. Supdt., CWISS

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+91 9433889595

Email: [santdas@rediffmail.com](mailto:santdas@rediffmail.com)

## Address for Communication

All queries regarding the course may be addressed to the Principal Coordinator.

## Application and Fee

### Category-1 & 2

Course fees

: Rs. 12,000.00

The course is designed to be offered for duration of **5 days**. *Total number of seats is limited to 30 (Thirty) but since the Short Term Course is meant primarily for teachers from AICTE-approved colleges, they will be given first priority for all the seats.* The participants will be selected on '**First-Come-First-Served**' basis out of the eligible applicants.

### Mode of Payment:

**Type – I:** Payment is to be made through bank draft drawn in favour of '**CEP-STC, IIT Kharagpur**' payable at **Kharagpur**. The application should be sent to the mailing address latest by **27<sup>th</sup> December, 2018**.

**Type - II:** Payment should be made by electronic fund transfer. For this, the bank details are as follows:

|                  |                          |
|------------------|--------------------------|
| Account Name     | : CEP-STC, IIT Kharagpur |
| Account Number   | : 95562200002955         |
| Bank Name        | : SYNDICATE BANK         |
| Bank Branch Name | : SRIC, IIT KHARAGPUR    |
| Branch Code      | : 9556                   |
| IFSC Code        | : SYNB0009556            |
| Swift Code       | : SYN BIN BB 120         |
| Bank Address     | : IIT Kharagpur-721302   |

Note: In case of electronic money transfer, please submit a copy of money transfer record with details of bank, amount, transaction number and date. The bank proof must be attached with registration form.

The course fee includes course materials, tea/coffee and snacks during lecture schedules only.

To confirm participation please send the scanned copy and hard copy of the Demand Draft with participant colour photo for identity card to [spatraiitkgp@yahoo.in](mailto:spatraiitkgp@yahoo.in) & [santdas@rediffmail.com](mailto:santdas@rediffmail.com); [sumit4s\\_iit@yahoo.com](mailto:sumit4s_iit@yahoo.com); by December 27, 2018 positively.



### **Certificate**

A certificate of participants will be issued to all the participants from the Office of “Dean, Continuing Education, IIT Kharagpur” after completion of course.

### **Accommodation Facility**

Outstation participants will be provided Sharing accommodation for Male and Single accommodation for female participants in the Visveswaraya Guest House of IIT Kharagpur as per availability on prior request.

### **Food & Accommodation Charge**

Category- 1 & 2: Rs. Inclusive in course fee

### **Valedictory Function**

Tentative schedule of Valedictory function is on 8<sup>th</sup> January, 2019 at 3:30 pm followed by a grand Lunch at 1:00pm on 8<sup>th</sup> January, 2019.

### **TA for Participants**

Category- 1 & 2 : Nil

### **How to reach campus at IIT Kharagpur**

Situated about 120 km west of Kolkata, Kharagpur can be reached in about 2 hrs. by train from the Howrah railway station of Kolkata or 3 hrs. by car from Kolkata airport. Kharagpur is also connected by direct train services to most major cities of the country. The institute is about 10 minutes drive ( 5 km) from the Kharagpur railway station. Private taxi, auto rickshaw or cycle rickshaw can be hired to reach the Institute.

## About CWISS

The Central Workshop and Instruments Service Section (CWISS), a unique service center at IIT, Kharagpur, was established in 1965 to cater to the fabrication of custom made instrument to sustain the Post Graduate and Research activity in the Institute. It is one of the major service sections of the Institute having Mechanical Fabrication Section, Carpentry Section, Electronic Repair Section, Glass Blowing Section and Audio Visual Units. Apart from executing work orders from various Department/Centers/Sections of the Institute, CWISS also undertakes work orders from outside on cost basis.

### Important Dates

**Last date for receiving application: December 27, 2018**

**Intimation to the applicants: 28<sup>th</sup> December, 2018**

**Course duration: January 04-08, 2019**

### Note:

1. Only selected participants would be informed by E-mail.
2. You may bring Laptop on your own responsibility for practice study session.

## Contact Us : About Short Term Course

**Mr. Sumit Rajan : 9933792374 [ E-Mail: [sumit4s\\_iit@yahoo.com](mailto:sumit4s_iit@yahoo.com) ]**

## REGISTRATION FORM

### SHORT-TERM COURSE

On

CNC Machining with Advanced CAD-CAM applications

( January 04 – 08, 2019 )

- Name: \_\_\_\_\_  
[Block Letters: Provide as appearing on your Institute or Official]
- Category [ Student/ Academic/Industry ]: \_\_\_\_\_
- If Academic
  - Designation: \_\_\_\_\_
  - Institute Name: \_\_\_\_\_
  - AICTE approved Institute [Yes/ No] (compulsory) : \_\_\_\_\_
- Gender ( M/F ) : \_\_\_\_\_
- Date of Birth : \_\_\_\_\_
- Organisation: \_\_\_\_\_
- Highest academic Qualification: \_\_\_\_\_
- Address for Correspondence: \_\_\_\_\_  
\_\_\_\_\_
- Mobile: \_\_\_\_\_
- E-Mail (Compulsory): \_\_\_\_\_
- Accommodation required (Yes/No) \_\_\_\_\_
- Bank Draft/Fund transfer Details:
  - Draft No./Reference No.: \_\_\_\_\_ Date: \_\_\_\_\_
  - Amount Rs. : \_\_\_\_\_
  - Issuing Bank with Branch code: \_\_\_\_\_

\_\_\_\_\_  
Signature of the participant

### Approval for Sponsorship participant

We approve the above applicant is a faculty/Student of our organization. He/She is recommended for the course during January 04-08, 2019 at IIT Kharagpur.

\_\_\_\_\_  
Signature with seal of the  
Head of the organisation

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