

Short Term Courses

COURSES FOR DIPLOMA/DEGREE IN MECHANICAL ENGG. OR EQUIVALENT		
COURSE NAME	DURATION	COURSE FEE
Auto CAD (Mechanical)	1 Month	₹7,000/-
CATIA	1 Month	₹8,000/-
Creo	1 Month	₹8,000/-
UNIGRAPHICS	1 Month	₹8,000/-
SOLIDWORKS	1 Month	₹8,000/-
MASTER CAM	1 Month	₹8,000/-
CNC Milling & Turning	1 Month	₹8,000/-
ANSYS	2 Weeks	₹8,000/-
3D Printing & Additive Manufacturing	2 Weeks	₹8,000/-
COURSES FOR DIPLOMA/DEGREE IN ELECTRICAL/ ELECTRONICS ENGG. OR EQUIVALENT		
COURSE NAME	DURATION	COURSE FEE
PLC	1 Month	₹8,000/-
VLSI	1 Month	₹8,000/-
SCADA	1 Month	₹8,000/-
Advanced Embedded System	1 Month	₹8,000/-
ROBOTICS	1 Month	₹8,000/-
Lab View	1 Month	₹8,000/-
E.CAD	1 Month	₹7,000/-
COURSES FOR DIPLOMA/DEGREE IN CIVIL ENGG.		
COURSE NAME	DURATION	COURSE FEE
Auto CAD (Civil)	1 Month	₹7,000/-
STAAD PRO	1 Month	₹8,000/-
3Ds Max	1 Month	₹8,000/-
REVIT	1 Month	₹8,000/-
COURSES FOR ANY GRADUATE		
COURSE NAME	DURATION	COURSE FEE
MAT LAB	2 Weeks	₹8,000/-
Hardware Networking	1 Month	₹5,500/-
.NET	1 Month	₹5,500/-
Core JAVA	1 Month	₹5,500/-
Advanced JAVA	1 Month	₹5,500/-
C	1 Month	₹3,500/-
C++	1 Month	₹3,500/-
Entrepreneurship Skill Development Program	2 Weeks	₹2,500/-
Internet of Things	2 Weeks	₹8,000/-

ALL THE ABOVE SHORT TERM COURSE START ON 1ST WORKING DAY OF EVERY MONTH

POST DIPLOMA IN TOOL & DIE MANUFACTURING (PDTDM)



MSME TOOL ROOM, BHUBANESWAR

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CENTRAL TOOL ROOM & TRAINING CENTRE
Bhubaneswar, Odisha

NSQF Complied Long Term Courses

COURSE NAME	DURATION	COURSE FEE
COURSES FOR 10TH PASS OUT		
Diploma in Tool & Die Making	DTDM	4 Year ₹19,000/- (per Semester)
Diploma in Mechantronics	DIM	3 Year ₹19,000/- (per Semester)
ITI Machinist	ITIM	2 Year ₹28,000/- (per Year)
ITI Fitter	ITIF	2 Year ₹28,000/- (per Year)
ITI Electrician	ITIE	2 Year ₹28,000/- (per Year)
Condensed Course in Tool & Die Making	CTDM	1 Year ₹66,000/-
Certificate Course in CNC Turning & Milling	CCTM	1 Year ₹32,000/-
COURSES FOR UNDER MATRIC		
Certificate Course in Machine Operation	CCMO	1 Year ₹18,000/-
COURSES FOR ITI STUDENTS		
Certificate Course in Advance Machining	CCAM	1 Year ₹32,000/-
Advance Certificate Course in Machine Maintenance	ACCMM	1 Year ₹32,000/-
Advance Certificate Course in CNC Machining	ACCCM	1 Year ₹34,000/-
Advance Certificate Course in Welding Technology	ACCWT	1 Year ₹50,000/-
Certificate Course in Machining	CCM	6 Months ₹22,000/-
Certificate Course in Fitting & Rigging	CCFR	6 Months ₹32,000/-
Suryamitra	-----	1.5 Months ₹10,000/-
COURSES FOR DIPLOMA IN MECHANICAL ENGG. OR EQUIVALENT		
Post Diploma in Tool & Die Manufacturing	PDTDM	1 Year ₹54,000/-
Post Diploma in CAD/CAM	PDCC	1 Year ₹54,000/-
Advance Diploma in CNC Programming Techniques & Practice	ADCNC	6 Months ₹34,000/-
COURSES FOR DEGREE IN MECHANICAL ENGG. OR EQUIVALENT		
Post Graduate Diploma in Tool Design & CAD/ CAM	PGTD	1 Year ₹60,000/-
Post Graduate in Aerospace Manufacturing	PGAM	1 Year ₹60,000/-
Master Certificate course in CAD / CAM	MCC	6 Months ₹36,000/-
COURSES FOR DIPLOMA IN ELECTRICAL/ELECTRONICS ENGG. OR EQUIVALENT		
Advanced Diploma in Machine Maintenance & Automation	ADMMA	6 Months ₹34,000/-
Advanced Embedded Technology	AET	6 Months ₹34,000/-
Certificate Course in Electrical Equipment Repair & Maintenance	CCERM	6 Months ₹34,000/-
Post Diploma in Industrial Automation & Robotics	PDIAR	1 Year ₹60,000/-
COURSES FOR DEGREE IN ELECTRICAL/ELECTRONICS ENGG. OR EQUIVALENT		
Master Certificate Course in Automation & Process Control	MCCAPC	6 Months ₹36,000/-
COURSES FOR DIPLOMA IN MECHANICAL/ ELECTRICAL/ELECTRONICS ENGG. OR EQUIVALENT		
Post Diploma In Mechatronics	PDIM	1 Year ₹54,000/-
COURSES FOR DIPLOMA/DEGREE IN CIVIL ENGG.		
Post Diploma in Structural Design & Analysis	PDSDA	1 Year ₹54,000/-
Advance Diploma in Structural Design & Analysis	ADSDA	6 Months ₹34,000/-
COURSES FOR ANY GRADUATE		
Advance Certificate Course in Inspection & Quality Control	ACCIQ	6 Months ₹22,000/-
Advance Diploma in Computer Hardware & Networking Management	ADCHNM	6 Months ₹34,000/-
Advanced Certificate Course in Software Application	ACCSA	6 Months ₹22,000/-

POST DIPLOMA IN TOOL & DIE MANUFACTURING (PDTDM)

Introduction to CTTC:

MSME Tool Room Bhubaneswar (Central tool Room & Training Centre) established in the year 1991, Today stands as the premier Tool Room & Training Centre in India. Under the Technical Co-operative programme between Government of India and Govt. of Denmark the Centre was established as a Govt. of India Society. The management of affairs of the Centre rests with the Governing Council constituted by Govt. of India. Additional Secretary & Development Commissioner (MSME), Govt. of India, is the President of the Society & Chairman of the Governing Council.

MSME Tool Room –Bhubaneswar is on the way of achieving its set goal with its extension Centre at Rayagada and Kalinga nagar, Odisha. It believes its bench marking its standards not only against the tool room and training centers in India and the world. The zeal and experience and commitment of employees has been pushing the Centre to achieve the greater height of quality industry oriented training programs for different levels and different discipline students and production of highly precision components for tool and die making, automobile and aerospace components.

Objectives of this course

Upon completion of this course

- Learners who attain this qualification are competent in Tool and Die Manufacturing and can get a job as Tool Room Engineer or Production Engineer or become an entrepreneur.
- Qualifying learners attain skills to work in Production department to carry out Manufacturing of Jigs and Fixtures, Press Tools, Moulds and Die Casting Dies using CNC Technology and CAM Software.

Who can avail this opportunity:

Diploma in mechanical/production/Automobile engineering or equivalent is eligible for taking admission. The company sponsored candidates will be preferred. Unemployed /fresh diploma holders and those final year students awaiting result can be apply.

NSQF Qualification: Level – 6

Duration: 1560Hrs.

Occupation of Qualification: Tool Room Engineer

Progression of Occupation from Qualification: After completion of course and after 2 years of field experience the trainee can work as a Sr. Tool Room Engineer after that 5 years of experience, the person can work as Manager (Tool Room) and has vertical progression up to Sr. Manager (Tool Room).

Fee:

₹ 54,000/-per participant to be paid in the following instalments.

At the time of registration	-	₹ 1,000/-
First Instalment	-	₹ 13,000/-(At the time of admission)
Second Instalment	-	₹ 13,000/- (After completion of two month)
Third Instalment	-	₹ 13,000/-(After completion of six month)

Fourth Instalment	-	₹ 14,000/- (After completion of nine month)
Insurance Fee	-	₹ 300/- (At the time of admission)
NSQF Assessment Fee	-	₹ 800/- (At the time of admission only for general)

22.5% seats are reserved for SC/ST candidates for whom no course fee will be charged subject to production of two photocopies of caste certificate duly attested by Greeted Officer. However, all other fees/deposits is to be paid in case of admission. Caste Certificate in Original from competent authority is to be produced for verification at the time of admission which may be revived from the issuing authority.

COURSE CONTENT :

Sr. No.	Title and identification code of component	Mandatory / Optional	Estimated size (HRS)
1	CNC Programming & CNC Machining	Mandatory	160
2	Computer Aided Design (CAD-Auto Cad and Solid Works)	Mandatory	120
3	Fundamentals of Tools & Dies	Mandatory	120
4	Engineering Metrology and Quality Assurance	Mandatory	40
5	Production Planning & Controls	Mandatory	40
6	Computer Aided Manufacturing. (Master Cam & Unigraphics Cam)	Mandatory	160
7	Advance CAM (Del CAM – 3 Axis and 5 Axis)	Mandatory	80
8	Engineering Materials and Heat Treatment	Mandatory	40
9	Total Quality Management	Mandatory	40
10	Metal Cutting And Cutting Tool Design	Mandatory	80
11	Entrepreneurship	Mandatory	40
12	Project Work	Mandatory	640

ELIGIBILITY TO APPEAR IN THE EXAM:

Minimum 80% attendance is compulsory for the students to appear for the assessments.

PASSING MARKS:

Passing criteria is based on marks obtain in attendance record, term works , assignments, practical's performance, viva or oral exam, module test, class test, practical exam and final exam

Minimum Marks to pass practical exam – 60%

Minimum Marks to pass theory exam- 40%

Minimum Marks to class test – 40%

Minimum Marks to pass viva / oral exam – 60%

Minimum Marks to pass Project report and presentation exam – 60%

DETAILED COURSE PLAN FOR 1 YEAR:

Course Name	Contents (chapters/topics)
CNC Programming & Machining	Introduction to CNC technology and CNC programming, CNC Programming, CNC Machining – Lathe, CNC Machining –Milling, CNC Machining –EDM & WEDM, Modern CNC Systems.
Computer Aided Design (AutoCAD & Solid works)	INTRODUCTION: Auto CAD ,co-ordinate system, DRAFTING: introduction to drafting, curve creations, use of functional keys, utilization of layer, block, wblock, attribute Edit, text creation methods, use of template., SOLID MODELING: solid creation commands, UCS movements, 3D visualization, photo realistic, rendering and customization SKETCH: Introduction to sketch, positioning sketch, smart picking method, simple profile, predefine profile, constraints and Repair sketch, SOLID MODELING: All boss feature, all cut feature, all feature (round, chamfer), feature modification using feature manager tree and reference geometry. ASSEMBLY: Introduction, bottom up & top down assembly, assembly constraint, move component, assembly pattern, motion study, mechanical mate, exploded view, assembly feature, checking interface & clearance between parts, GENERATIVE DRAFTING: Defining drawing sheet, creating, import template.
Fundamentals of Tool & Die Manufacturing	Jigs & Fixture, Press tool , Manufacturing concept Of Press Tool, Mold, Manufacturing Concept of Mold , Die Casting Dies.
Engineering Metrology & Quality Assurance	Principles of measurement, Length Standards, Limits, fits and Tolerances, Types of Inspection, Straightness and flatness, Screw Thread Measurement, Gear Measurement, Introduction to Quality Assurance.
Production Planning & controls	Introduction & Preplanning, Production Planning, Production and Inventory Control, Productivity Human Factors & Ergonomics.
Computer Aided Manufacturing (Master CAM & NX CAM)	Introduction to Unigraphics CAM environment. Brief concept of CAM. Machining environment, creating new operation. Manufacturing applications, Work piece & MCS Setting.2D Tool path Generation, Various Milling & Turning Operations (Roughing, Semi Finishing, Finishing) Simulation with Machine, Post Process Generation, Milling & Turning with IPW, Introduction to master Cam, Sketches on master cam with sketch tools, different operations on sketch. Surface modeling, differ types of modeling & operations. Solid modeling with its tools. Generation of 2D tool path in milling. Generation of 3D tool path in milling(roughing, semi finishing & finishing).NC code generation. Different types of turning operations & NC code Generation.

Advance CAM (DELCAM)	Introduction to delcam environment, Wireframe modelling, Work planes, Surface modelling & solid modelling, 3d tool path generation - finish, Nc utility & machining of job with nc programs.
Engineering Materials & Heat Treatment	Alloys and phase diagrams, Heat treatment, Mechanical properties and testing, Ferrous and nonferrous metals, Non-metallic materials.
Total Quality Management	Introduction, Need for quality, Evolution of quality, Definition of quality, Basic concepts of TQM - Definition of TQM – TQM Framework - Contributions of Deming,, Juran and Crosby – Barriers to TQM. The seven traditional tools of quality – New management tools – Six-sigma: Concepts, methodology, applications to manufacturing, service sector including IT, Bench marking, FMEA – Stages, Types. Quality circles, Taguchi quality loss function, TPM Need for ISO 9000- ISO 9000-2000 Quality System Elements, Documentation, Quality auditing- QS 9000 – ISO 14000 Concepts, Requirements and Benefits Case studies of TQM implementation in manufacturing
Metal Cutting & Tool Design	Theory of Metal Cutting, Ernst Merchant Theory and Heat Generation in Metal Cutting:, Machinability and Grinding, Cutting Tool Design.
Entrepreneurship	Entrepreneurship and the entrepreneurial process, Entrepreneurship framework and the entrepreneurial personality, Start-up factors, organizational planning and women, Entrepreneurship, Organizational structure and forms of ownership, Stages of growth and strategic management process, Intellectual property concept and innovation.

How to apply:

Application form attached with the broacher be filled up & mailed to Sr. Manager (Training) along with a D/D of ₹1000.00 on or before _____ In the event of selection this money will be adjusted in the course fee otherwise refund will be given on or before one week of course starts. Admission notification will be issued immediately after the last date of receipt of application and selected candidates will be required to pay fees within 15 days on or before _____ and report for training from _____.

Hostel Accommodation:

Dormitory accommodations can be arranged in the CTTC guest house which can be booked on advanced request. The accommodation charges will be ₹1500.00 per month per bed.

Uniform:

The candidates will have to get uniforms, dress stitched at their own cost as per the colour & design specified by the center.

Certification:

After successful completion of training main certificate with grade, mark sheet & project certificate will be issued separately to the trainees.

Placement Help:

CTTC placement cell will make efforts to contact & invite companies to conduct campus interviews; however, no guarantee can be given for placement/employment. Interested trainees can be registered by paying ₹3,000/- each towards placement registration at start of the programme and in case of trainee is not successful from getting placement he/she may be refunded ₹2,000/-.

GENERAL RULES & REGULATIONS FOR TRAINEES:

- CTTC reserves the right to reject any application without assigning any reason. Incomplete applications are liable to be rejected.
- Registration Fee is Non Refundable, in case any candidate cancels his admission for any reason.
- Course Fee once paid will not be refunded & Registration/ Course Fee is not transferrable.
- Insurance & other charges as specified for the course to be paid but the trainee in addition to the course fee as applicable.
- All the trainee will be ensure discipline within the campus.
- Trainee shall be required to wear uniform & shoes as prescribed by the institute and possess I-Card compulsory during training.
- Mobile Phones, Pen Drives, CD any other related items are not permitted inside CTTC premises.
- Regular attendance will have to be maintained by the trainee as per course schedule & 80% attendance is compulsory in all subjects individually.
- Trainees will abide by the examination rules and regulations displayed on Notice Board of CTTC and as amended.
- Leave without information/ permission will not be entertained.
- Trainees going on leave or home during vacation should inform course coordinator compulsorily.
- No trainee shall be organize/ conduct any meeting within the campus.
- The Machines/ Equipment/ Furniture must be handled carefully. No act of damage to CTTC property shall be carried out by the trainee, any loss or damage to property, including water & electricity usage.
- Smoking & chewing tobacco, possessing or drinking alcoholic beverages in any form is strictly prohibited within CTTC premises.
- Ragging is strictly prohibited in the premises.
- Writing any Comment/ Remarks/ Name on doors, walls, toilet, and notice board is strictly prohibited.
- Violation of above & any other Rules, Regulations, Disciplines and Conduct are liable for disciplinary action.