ACCOMMODATION:

A limited number of rooms are available in the visitors' house/guest house of NIT, Rourkela at first cum first serve basis. Confirmed accommodation for the delegates/participants can be arranged by the organizing committee if communicated within the proper time.

ELIGIBILITY AND APPLICATION PROCEDURE:

People with science/engineering background can attend this course. This course is primarily intended to impart basic knowledge of materials engineering in the initial level and after that in depth coverage of new materials and the processing routes will be carried out. Specific case study from application view point will also be discussed. The course fee per person is Rs.10,000/- (for industries and R & D organizations), Rs. 7,000/- for academic institutes and Rs. 5,000/- for students and Research Scholars. The seats for the course is limited to 30 and is on first cum first serve basis. The Registration form (format attached) along with the course fee in shape of a bank draft is to be sent on or before 30th November 2009.

Web link : http://nitrkl.ac.in/shorttermcourse/mm/materials_technology.html

CORRESPONDENCE:

Co-ordinator:

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PROGRAM SCHEDULE:

Date: 7th December 2009

- 9:30 AM — Inauguration
- 10:30 AM to 12:30 PM — Lecture Session I
- 2:00 PM to 6:00 PM — Lecture & Laboratory Session II

Date: 8th December 2009

- 8:30 AM to 12:30 PM — Lecture Session III
- 2:00 PM to 6:00 PM — Lecture & Laboratory Session IV

Date: 9th December 2009

- 8:30 AM to 12:30 PM — Lecture Session V
- 2:00 PM to 6:00 PM — Lecture & Laboratory Session VI

Date: 10th December 2009

- 8:30 AM to 12:30 PM — Lecture Session VII
- 2:00 PM to 6:00 PM — Lecture & Laboratory Session VIII

Date: 11th December 2009

- 8:30 AM to 12:30 PM — Lecture Session IX
- 2:00 PM to 4:00 PM — Lecture & Laboratory Session X
- 4:30 PM — Valedictory

A
Short Term Course
on

Materials Technology: Advanced Processes and Characterizations

December 7-11, 2009

Organized by

Department of Metallurgical and Materials Engineering
National Institute of Technology,
Rourkela - 769 008

OBJECTIVES:

In recent years, noticeable changes in materials technology are mainly in terms of breakthrough innovations and successful applications of potential and promising materials in functional and structural areas; examples are from light weight structures to miniaturized electronic chips. Materials those have changed dramatically includes basic materials like steels and other alloys, polymers, ceramics etc. and the new breed materials called advanced materials. Advanced materials include a series of materials like composites, bio-materials, smart materials and functional materials. Unique properties of such materials not only depend upon their starting material but also on the processing route as processing route highly govern the structure of materials. For better understanding of materials and their processing, a basic knowledge and their specific use are essential. To judge the newer grade materials different materials characterization techniques are also essential. The course basically aims to discuss the basic principles of materials engineering in the initial level and then go to in-depth coverage of new materials and the processing routes. It will also include different characterization techniques, case studies from the industry as well as research institutes to enumerate the usefulness of the techniques and a brief history of material development.

ABOUT NIT ROURKELA:

National Institute of Technology, Rourkela (NIT) formerly known as Regional Engineering College, (REC) is one of the premier central government institutions for imparting quality technical education in the country. The institute is situated at the eastern end of Rourkela steel city, beyond Sector-1 over an area of 262 hectares of land provided by the Government of Orissa. Surrounded by hills and greeneries, it is a beautiful residential campus offering accommodation to faculty, staff and students. The campus has all the amenities for developing personal, social and academic skills of the student community. The institute has 10 engineering departments, 5 basic science departments as also the social science department.

The city of Rourkela came into prominence in the year 1954-55, with the decision of the Government of India to set up the first Public Sector Steel Plant in this locality in collaboration with the then West Germany. The city is a huge metropolis connected with all parts of the country by railway and road. Domestic air services are available from Ranchi, Bhubaneswar and Barbil. Kolkata is about 6 hours journey by rail from Rourkela. The population of the city is about 6 lakhs. The climate during December is cool due the temperature ranges from 8°C (min.) to 20°C (max.)

ABOUT THE DEPARTMENT :

Established in 1964, the department has been emerged as powerhouse for academics, scientific research and cutting edge technologies. With time, the department grew noticeably and established new areas of research and teaching in materials engineering, while retaining its strength in traditional areas in metallurgy. The department attracts highly qualified faculty members and by virtue of its infrastructure and research environment. The department is actively pursuing research by inviting experts from many nearby industries such as Rourkela Steel Plant (RSP), Tata Steels, Dalmia Research Institute and Orissa Cement Ltd. (Rajgangpur) etc. Reasonable number of consultancy projects is being carried out by the department.

COURSE OUTLINE:

- Super Alloys: heat treatment and applications
- HSLA steel: heat treatment and applications
- Composite materials: present status and future prospect
- Plasma technology: material processing and coating (plasma spray)
- Thin film technology: processing and applications
- Surface engineering: processing by LASER
- Characterization by electron microscopy: operation and analysis
- Crystallographic texture and micro texture
- Sponge iron: raw materials and processes
- Viscosity of blast furnace slag: effect on slag metal separation and coke layer
- Fatigue and corrosion fatigue of metals
- Corrosion and corrosion control
- Nanocomposite: advanced processing and applications
- Synthesis and Characterization of Alloys Developed by Mechanical Alloying
- Environmental management in metallurgical industries

A Short Term Course on

Materials Technology : Advanced Processes and Characterizations (7th - 11th December 2009)

REGISTRATION FORM

1. Name: _____ (capital letters)
2. Designation: _____
3. Qualification: _____
4. Specialization: _____
5. Organization: _____
6. Mailing Address: _____

_____ PIN _____

7. Telephone: _____
8. Fax: _____
9. Email: _____
10. Accommodation Required? YES / NO
11. Details of Registration Fee:

    DD No.: _____ Date: _____

    Amount: _____ Bank: _____
12. Expected date and time of
    - Arrival: _____
    - Departure: _____

Place Signature with date

- All payments are to be made by a/c payee demand draft drawn in favour of "Continuing Education, NIT Rourkela" payable at SBI, NIT Branch, Rourkela-769008 (Code-2109) on or before 30th November 2009.
- Photocopy of this form can also be used