

Whom will the course benefit:

The course would benefit teachers in the disciplines of materials science & engineering, metallurgy, mechanical engineering, physics and chemistry who are interested in topics such as topography and microstructure of materials, failure analysis and device architecture. Teachers, researchers and professionals who are using or planning to use electron microscopes would be particularly benefited.

Course Outline and Objectives:

Introduction and Advanced Concepts in Electron Microscopy.

Course Contents:

1. Ray and electron optics: Basics and advanced concepts
2. Resolution and magnification
3. Construction of an electron microscope
4. Modes of operation of a scanning microscope
5. Electron beam specimen interactions
6. Image formation and interpretations
7. Examples of image formation
8. Generation of X-rays
9. X-ray spectral measurement
 - a) Energy dispersive spectroscopy
 - b) Wavelength dispersive spectroscopy
10. Quantitative X-ray analysis: ZAF corrections and determination of composition
11. Specimen preparation.

Course Organization:

The course will consist of lectures and practical/Lab sessions.

Faculty:

IISc faculty will deliver the lectures.

Eligibility:

The course is meant for faculty of AICTE - recognized engineering colleges. Selected teachers will be paid TA at actual subject to the limit of Three tier AC train/bus fare by the shortest route from the place of work to Bengaluru and back. **However, the maximum TA payable is Rs.3000/-.** They will be provided with a daily allowance of Rs.500/- per day (for 5 days only) towards boarding and lodging as per QIP rules, and will be supplied with the course materials. **The lodging charges will be Rs.300/- per day. Local participants will be paid DA @ Rs.150/- per day for 5 days.**

A few seats are available for non-sponsored (self-support) teachers, scientists from R&D organizations, practicing engineers from industry and others interested in this course. **A course fee of Rs.10,000/- will be charged to these participants.** This will entitle them to participate in the course and receive the course material. Single room **accommodation** is available on the Institute campus at the **Hoysala House**. The participants have to request in advance along with the registration form for such accommodation. The lodging charges will be **Rs.1000/- per day**, for self-sponsored college teachers and **Rs.1500/- per day** for other participants, subject to availability of accommodation.

**CENTRE FOR CONTINUING EDUCATION
Indian Institute of Science
Bengaluru - 560 012**

**QIP Short Term Course
On**

Scanning Electron Microscopy

12th - 16th December, 2016

Registration Form

(Please mail to reach before 10th November, 2016)

1. Name.....
2. Age:..... Sex: Male/Female
3. Office
address
4. Landline No. with STD code:.....
5. Mobile No.
6. Email ID:.....
7. Academic Qualifications
Degree subject year University
Diploma/B.Sc./B.A.....
B.E/B.Tech/M.Sc.
M.E/M.Tech./M.Phil.....
Ph.D. Completed/Pursuing/Intend pursuing:.....
Thesis title/Proposed Research Area:.....

8. Teaching Experience.....(Years)
 9. Industry Experience(Years)
 10. Courses taught/professional responsibilities.....

 11. Accommodation required Yes / No
 12. Self-support candidate : Rs. 10,000/-
 Demand Draft No.....dated.....

I agree to abide by the rules of the QIP courses. If selected, I shall participate in the course for the entire duration.

Date:
Place:

Signature

The applicant Mr/Ms.....

.....
 from our institution will be permitted to attend the QIP Short Term Course on “**Scanning Electron Microscopy**” to be held during **12th to 16th Dec., 2016** at the Indian Institute of Science, Bengaluru, if selected. He/she will be granted necessary leave of absence.

Place:

Signature of Head of the
Department

Date:

Signature and Seal of the
Principal of the Institution

(Xerox copy of this form may also be used)

Please mail the filled-in application form to:

The Section Officer
 Centre for Continuing Education
 Indian Institute of Science
 Bengaluru - 560 012
 Telephone: 080-23600911, 22932055/2491
 Email: so@cce.iisc.ernet.in/
 office@cce.iisc.ernet.in

To reach on or before 10th November, 2016

Intending participants may use the attached application form or a xerox copy of the same. Applicants from AICTE recognized colleges are required to submit their applications sponsored by their colleges.

Non-sponsored (self-support) teacher applicants /others should send their application along with a **DD for Rs.10,000/-** drawn in favour of “**Registrar, Indian Institute of Science, Bengaluru - 560012**” payable at Bengaluru.

Deadlines:

Receiving completed application: **10th November, 2016**

Intimation of selection: **14th November, 2016**

**QIP Short Term Course
 On**

Scanning Electron Microscopy

12th to 16th December, 2016

Coordinator

**Dr. Chandan Srivastava
 Dept. of Materials Engineering**

**Sponsored by
 AICTE, NEW DELHI**



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 Indian Institute of Science
 Bengaluru - 560 012**