Whom will the course benefit?
Faculty members, researchers and practicing professionals in the disciplines of material science, mechanical engineering, metallurgy and physics who are interested in understanding and application of microscopy.

Course Objective:
To enhance understanding of fundamental concepts and provide training in electron microscopy.

Course Contents:
- Ray and electron optics: Basics and advanced concepts
- Resolution and magnification
- Construction of an electron microscope
- Modes of operation of a scanning microscope
- Electron beam specimen interactions
- Image formation and interpretations
- Examples of image formation
- Generation of X-rays
- X-ray spectral measurement
  a) Energy dispersive spectroscopy
  b) Wavelength dispersive spectroscopy
- Quantitative X-ray analysis: ZAF corrections and determination of composition
- Specimen preparation

Eligibility:
The course is meant for faculty of engineering colleges recognized by All India Council for Technical Education (AICTE), National Institutes of Technology (NIT’s) and National Institute of Technical Teachers’ Training & Research (NITTTRs). 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/- (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.

In addition, a few seats are available for non-sponsored (self-support) teachers, scientists from research labs, practicing engineers from industries and other interested persons on payment basis as under.

Course Fee:
Academic Institutes, Govt. R&D Labs: 10,000 INR
Private Industries: 15,000 INR

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-support college teachers, and Rs.1500/- per day for industry participants, subject to availability of accommodation.

Faculty:
Prof. Chandan Srivastava, Dept. of Materials Engineering, IISc. will deliver the lectures.
10. Course taught/professional responsibilities

11. Accommodation required

12. Self-support candidate:

Academic Institutes, Govt. R&D Labs: Rs. 10,000
Private Industries: Rs. 15,000

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: ........................................ Signature
Place: ........................................

The applicant Mr/Ms........................................

from our institution will be permitted to attend the QIP Short Term Course on “Electron Microscopy” to be held during 22-26 May 2017 at the Indian Institute of Science, Bengaluru, if selected. He/she will be granted necessary leave of absence.

It is certified that our college is recognized by AICTE Order No:........................Date:.......................