

INTRODUCTION

IIT Bombay has conducted many large-scale teacher training workshops under the Train 10,000 Teachers (T10KT) programme, sponsored by the National Mission on Education through ICT (NMEICT), MoE, Govt. of India, and trained over 2,00,000 teachers.

We are all witnessing an increasing need to use online teaching-learning processes. The face-to-face interactions combined with online mechanisms are referred to a blended-MOOC offerings. Interactions can also happen remotely through video conferencing. This workshop is designed to train our teachers on **how to teach basic programming using a blended mode**. A similar workshop on “How to teach object oriented programming” will soon follow.

This workshop is a joint initiative of the Knowledge Incubation **TEQIP** III (KITE), Parimal and Pramod Chaudhari Centre for Learning and Teaching (PPCCLT) and Teaching Learning Centre (TLC) at IIT Bombay, under 'Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching' (**PMMMNMTT**), through Ministry of Education, Government of India. IIT Bombay will conduct a series of pedagogy workshops on various subjects. We will use our MOOC platform IITBombayX and some video conferencing tools for live interactions.

METHODOLOGY OF THE WORKSHOP

A MOOC course CS101.1x on programming basics is already developed and offered to student-learners on IITBombayX. The content of that course covering different topics will be made available to participants of this workshop. This is primarily for

participants to revise their own knowledge and become familiar with the approach of teaching the course. To ensure that participants have carried out such revision, quizzes will be held on a few specific topics during the workshop. The live sessions will begin with an introduction on pedagogy for teaching in blended mode, followed by one session each on how to teach a few selected topics. There will be a concluding session on conducting online assessments.

SYLLABUS FOR THE WORKSHOP

In this workshop, we deal with the pedagogy for effective teaching of programming basics. The syllabus comprises of following two distinct components:

(i) Revision of the topics of procedural programming using C++. These topics are: Introduction; Sequential and Conditional Execution of Programs; Iterative solutions; Functions; Arrays and Matrices; Sorting and Searching; Strings; Pointers; Structures; Files.

The course content of CS101.1x, which include the recorded video lectures, slides, and practice problems, will be made available to participants to carry out this revision online. **The material can be later used by participants for their own teaching. Submissions made by every participant will also be released in Open Source under CC-BY-SA license.**

(ii) Understanding the pedagogy of teaching this course in online/blended mode. Participants will attend live sessions explaining the suggested method of revision, for under pedagogy for a few selected topics, and for conducting online assessment.

TEACHING FACULTY

Prof. Supratik Chakraborty, Professor
Prof. Deepak B Phatak, Professor Emeritus
Department of CSE, IIT Bombay

WORKSHOP FEE

The course fee for the 5-day pedagogy workshop is **Rs. 1250/-**. The course fee once paid is neither transferable nor refundable under any circumstances.

Note for TEQIP-III Institute Faculty Members:

If your institute is under the TEQIP III Institutions, then please check with your head of Institution or Coordinator, for the nomination to this course. The registration fees for the faculty nominated under TEQIP-III institutions will be paid by IIT Bombay from TEQIP funds. For such individuals, an invitation link along with the registration/activation process will be sent to the registered email address. The steps given in that email need to be followed.

IITBombayX portal will require details like Full Name, Email, username, state, city, pincode, country, and other details. **If you already have an account on IITBombayX, you must use the same email-id to register for the course.** One of the aims of this workshop is to have wider interaction between the nominated TEQIP-III-KITE participants with a large number of faculty from other institutions, possibly some from their own institutions as well. This will enable better pedagogical exposure to all participants.

WHO SHOULD ATTEND?

The workshop is targeted towards faculty members engaged in teaching Basic Computer Programming, from any Institute, College, University, Polytechnic, and Junior college. It is to be noted that the focus is NOT on the subject matter, which the participants are expected to know. It is on the pedagogy of how to teach the course in blended mode.

CERTIFICATE

E-certificate will be provided to the participants after successful completion of the workshop. For successful completion and certification, each participant will have to do assigned tasks, such as answering quizzes, uploading designated material prepared by them, participation in live sessions, postings on the discussion forum, and completing the assigned peer review process.

DURATION AND MODE OF CONDUCT

Technically, the workshop will be regarded as a **5-day workshop**. Its conduct will be spread over the calendar period from **16 December to 30 December 2020**. Participants are expected to devote at least 40 hours of their time in defined activities including online work and participation in live interactive sessions. The live sessions of the workshop will be conducted on the **following dates from 3:30 pm to 5:00 pm : 16, 19, 20, 26, 27 December 2020**

HOW TO APPLY?

Enrollment will be strictly online, and no other mode of application will be entertained. The online registration for the course will start on **3 December 2020**. It will remain open till **15 December 2020**.

The URL for registration is:

<http://www.it.iitb.ac.in/lakshya/announcements.html>

Registration process for the workshop is given below:

- Sign up using your valid email id on the website given below (If you are already registered on IITBombayX, then please use the same emailid)
<https://www.it.iitb.ac.in/lakshya/signup.html>
- After verification, your account will be created
- Login on the website with the verified account
- Go to **Announcements**, select the workshop and register
- After successful registration, you will receive an automated email. Your name will be listed in the “List of Participants page”
- Thereafter also register on **IITBombayX** site (<https://courses.iitbomabayx.in/register>) (if not already registered), using the same email id to access the course content.

TECHNICAL REQUIREMENTS

Laptop or desktop with webcam; Microphone and speaker; “reasonable” Internet connection

ADDRESS FOR COMMUNICATION

Dr. Kalpana Kannan

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5-day Pedagogy Workshop on How to teach Programming Basics

Conducted jointly by

TEQIP-III KITE, PPCLT (IIT Bombay)
and Teaching Learning Centre (ICT)
under **PMMMNMTT**,
MoE, Govt. of India

16 - 30 December 2020

Coordinated from

IIT Bombay



Course Instructor

Prof. Supratik Chakraborty

Prof. Deepak Phatak, Professor Emeritus

Department of CSE

Indian Institute of Technology Bombay

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