Introduction to the Workshops under T10KT project

Over 5 years ago, we started conducting ISTE workshops for empowering teachers of engineering colleges. We first scaled up to engage 1,000 teachers at a time, in subject specific training workshops of two week duration. In 2013 we scaled this program further, to train up to 10,000 teachers at a time (T10KT), using 337 established remote centers across India. IIT Kharagpur is our partner Institution. Together, we have a mandate through a funded project from the National Mission on Education using ICT (NME-ICT) of MHRD, to train 1,50,000 teachers in 15 such workshops.

Since December 2009, we have conducted several two-week ISTE workshops on various engineering subjects. We have reached out to more than 65,000 teachers and helped them to enhance their teaching skills in these subjects.

In order to run these workshops at selected remote centers, we invite expert faculty from various remote centers to a five-day Coordinators' training workshop which is held in IIT Bombay, typically two months before the main workshop. These faculty members then act as Workshop Coordinators during the main training workshop to be conducted later for 10,000 teachers, during which, the Coordinators supervise the conduct of tutorials and Labs at their Centers. They liaise between the participants at their Remote Centers and IIT Bombay, from where the interactive lectures are transmitted live. All the lectures and tutorial sessions are recorded. The final edited audio-visual contents, along with other course material, are to be released in Open Source. The content can be freely used later by all teachers, students and other learners.

There is an urgent need in the country for capacity building in Cyber Security. By 2016 India will need over 4 lakh Information security professionals and hence the urgent need to train a large number of people across the country. MHRD has decided to use the platform of "Teachers Training Programme" by IIT Bombay, to train the trainers. The main workshop will provide training to teachers from Engineering Colleges and Polytechnics.

One-Week Coordinators' Workshop

The proposed Coordinators' Workshop, to support the above, is being organized at IIT Bombay from 17th to 21st May, 2014. This workshop will provide a complete orientation to the prospective Workshop Coordinators, on the methodology to be followed. This will include the delivery of live lectures through the AVIEW mechanism of interaction with participants, and the local conduct of tutorials and labs.

Introduction to the Course

Hardly a month passes without a news flash on cyber security - be it a new virus strain, botnets, denial of service or a high-profile break-in. Recently, for example, we have been alerted to the existence of the Heartbeat bug in the OpenSSL cryptography library which could lead to the potential compromise of a user's passwords, private keys, etc. Security was once the preserve of the military and, more recently, of banks. Today, awareness of security policy and practices has moved to the homes and offices of people in every walk of life. We are more dependent on the internet than ever before - for banking, e-trading, e-commerce and more. All of a sudden it seems like identity theft, phishing attacks and spyware are everyone's concerns. The heightened importance of security in the real world has had an impact on academic programs. In the recent past, many Computer Science and Electrical Engineering departments of repute have introduced at least one compulsory or elective course on security at the undergraduate level.

There are several challenges that cyber security poses. First is the highly inter-disciplinary nature of the field – encompassing basic number theory, web technologies, computer architecture, operating systems, protocol design and software. The second challenge is the changing landscape of the field. New attacks are being constantly developed and so defenses must evolve to handle the new attacks.

This course is a response to the strongly felt need for equipping our teachers with the tools and techniques needed to effectively train students in this important area. Indeed the impetus for this course is the acute shortage of qualified faculty in colleges and polytechnics trained to handle the challenges of cyber security.

The topics to be covered in this workshop include:

➢ Cyber Security- an overview
➢ Basic Cryptography
➢ Security Protocols
➢ Network Security
➢ Access Control
➢ Web Security
➢ Malware Protection
➢ Intrusion Detection and Prevention
➢ Future Trends

Teaching Faculty

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Prof. G. Sivakumar,
Department of Computer Science and Engineering, IIT Bombay. **http://www.cse.iitb.ac.in/~siva/**

Duration and Venue

The duration of the Coordinators' workshop is one week (17th- 21st May, 2014), and it will be conducted in IIT Bombay.

Who may benefit

This workshop is for the benefit of faculty colleagues, who are willing to be prospective Workshop coordinators for the larger main workshop to be held on 10th July – 20th July, 2014.

It is mandatory that the prospective coordinators should have taught a course related to Cyber Security at least for 1 or 2 times. He/she should be familiar with the topics listed in course content. It is preferable that they should have at least 3 years of teaching experience with some experience in conduct of ISTE, QIP workshops.

Note

Please note that this workshop is conducted under the T10KT project of IIT Bombay. Live recording of the course and other created content would be released under Open Source, through a portal. The recorded CD/DVD of the course lectures would be available for distribution at cost, to any individual/ institution. All participants are required to sign a No Objection certificate for such release of contents contributed by them during and after the workshop. All contributors will be acknowledged.

Accommodation and other support

Shared Guest House accommodation with standard boarding will be provided free to the participants depending on availability.

Course Fee and Travel Allowance

Since the workshop is funded by the National Mission on Education through ICT (MHRD, Government of India), there is no course fee for participation. Travel fare reimbursement will be made for up to A/C 2-tier or lowest return airfare, **as per GOI entitlement.**

Important Note:

It is mandatory that the participant's Institute is well equipped to conduct the workshop through the NKN/ internet for a minimum of 50 participants. For a remote center, a primary requirement is provision of one computer per participant, with Linux (preferable) or Windows as the operating system. This is for the laboratory component of the course.

It is also mandatory that the participants bring a document from the Heads of their institutes to the effect that the participant has been officially nominated by the Institute to be the Workshop Coordinator for this workshop. The format is provided on the registration page.

The prospective coordinators are expected to read all the relevant material available on moodle before coming to IIT Bombay. They will be given their moodle log-in ids once they are confirmed as participants for the workshop.

How to Apply

Those wishing to attend this course should register online at http://www.it.iitb.ac.in/nmeict/home.do

Due to limited seats, only one registration from each remote center is allowed. Confirmation of registration will be sent by email. **Enrollment will be strictly online.**

LAST DATE FOR ONLINE ENROLLMENT:
10th May, 2014

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One Week ISTE Workshop for Coordinators

on

Cyber Security

Under the

National Mission on Education through ICT
(MHRD, Govt. of India)

17th -21st May, 2014

Conducted by IIT Bombay

Course Coordinators:
Prof. Bernard L. Menezes
Prof. G. Sivakumar
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