

Algorithms In Engineering



February 15 - 19, 2016

KIC-TEQIP Short Term Course

Conducted by: Department of Mathematics, Indian Institute of Technology Guwahati

Algorithm is an important mathematical idea that all students need to understand and use. An algorithm is a finite sequence of rules for solving a particular problem. It has enormous application in modern human life such as mobile, sensor, aerospace, satellite to name a few. Algorithmic study involves applying, developing, analyzing, and understanding the nature of algorithms.

Engineering students often find difficulties to understand algorithm properly due to poor teaching. The primary objective of the workshop is to bring faculty members from different institutions to share knowledge, skills and techniques of teaching and learning approach. More specifically, the aim of this workshop is to discuss (i) importance of algorithm, (ii) teaching technique to the students, (iii) motivate to do research in algorithms, (iv) some state-of-the-art algorithmic research area, etc.

Course Objectives:

- To explore the connection of Algorithms in Engineering subjects
- To provide platform for the exchange of ideas, practices and pedagogy in the algorithm education in engineering and technical institutions.

Course Contents:

Basic Algorithm design and its extensive analysis, different algorithmic paradigm (Divide-and-Conquer, Dynamic Programming, Greedy Algorithms) in detail, Elementary Graph Algorithms, Geometric Algorithms, NP-Completeness, Approximation Algorithms

Resource Persons:

Faculty members of IIT Guwahati and guest faculty members from other premier institutions will deliver lectures.

Eligibility:

The course is open to teachers of **TEQIP mapped Technical Institutions (in Quality Circle with IIT Guwahati) and Central or State Government funded Technical Institutions in the North-Eastern states**. Seats that remain unfilled will be open to other institutions.

No Course Fee is charged.

Financial Assistance:

For Participants from TEQIP Mapped Institutions:

- TA & DA from their respective Institutions as per rule

For Participants from Govt. Funded Institutions in NE:

Limited number of selected Participants from Central & State Govt. Funded Institutions in the NE may be eligible & considered by IIT Guwahati for:

- to and fro railway fare via shortest route in 3AC
- to and fro fare in Government approved buses.

For all other participants:

No TA & DA will be provided by IIT Guwahati

Boarding and Lodging:

For participants from TEQIP institutions, free boarding and lodging (on sharing basis @ 2 persons per room) in the Guest House will be provided. For other participants, lodging will be extended depending on availability.

Selection Criteria:

Number of seats is **30**. Selection will be based on first cum first served basis from priority

1. TEQIP Mapped Institutions with IITG
2. Govt. Funded Tech. Institutes in NE
3. Other Institutions

Selected candidates will be informed by email.

Intimation of Selection: 16.12.2015

How to Apply:

Application form can be download from the website:

<http://www.iitg.ernet.in/gkd/aie>

The **duly filled and endorsed application** should reach the Course Coordinator on or before **14.12.2015**. Mailing address is given at the end.

Last Date for completed applications to reach IITG:

December 14, 2015 (Monday)

For complete details & updates, please visit [http:// www.iitg.ernet.in/gkd/aie](http://www.iitg.ernet.in/gkd/aie)

About TEQIP

Under the TEQIP-II program sponsored by the MHRD IITs have been invited to participate by establishing a centre dealing with KNOWLEDGE INCUBATION (KIC) vide DO No. 16-25/2013-TS.VII dated 25th June 2013. These centers are intended to become a focal point for training Faculty, Staff and students from TEQIP-II institutions in Knowledge Engineering, Content Creation, Improving Teaching, Pedagogy & administrative skills in identified niche areas/disciplines.

About KIC

KIC- Knowledge Incubation Cell at IITG functions as a multi disciplinary as well as interdisciplinary Innovation Incubation Centre with Knowledge Management as its focus. Its activities are in the area of improving quality of technical education, incubator of Innovative Ideas; implementer of contemporary pedagogy practices and development of Learning Content in Technical institutions.

About IIT GUWAHATI

IIT Guwahati campus is spread over a sprawling 785 hectares plot of green land on the north bank of the river Brahmaputra around 25 km from the heart of the city. With hills and vast open spaces the campus provides an ideal setting for training. For details see:

<http://www.iitg.ernet.in>

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