Mathematics in Perspective

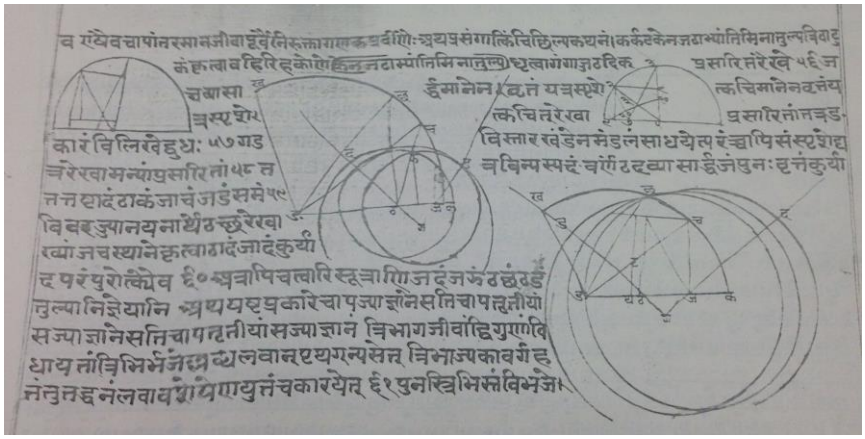
A History of Mathematics from Ancient to Modern

Brochure link: https://portal.iitb.ac.in/ceqipapp/courseDetails.jsp?c_id=2203

Overview

A study of the evolution of mathematical concepts is one of the most engaging and fascinating topics, as it is tantamount to the study of some of the finest intellectual achievements of the humanity. This course surveys the history of mathematics from the emergence of counting to the flourishing of calculus in select Eurasian cultures of inquiry, giving a glimpse of the challenges and crises that mathematicians have faced throughout history and the ways in which they tackled and resolved them. The various mathematical tools that are employed today in different branches of knowledge are indeed an outcome of the combined efforts of mathematicians of different "civilizations" over several millennia. The course aims to highlight the various trajectories, adopted by mathematicians inter-culturally and diachronically, of the development of mathematical thought.

It also balances an examination of the technical aspects of primary source material with various anthropological and archaeological approaches to get an idea of how the practice of mathematics is deeply connected with culture. Since no mathematician operates in vacuum, the tools conceived and constructed by them also mirrors the relationships between people and objects in that culture and thereby brings about a variation in the presentation of their results. Equal emphasis throughout this course will be placed on mathematical mastery of content as well as analytical and historical inquiry.



An excerpt from a manuscript of a seventeenth century work on mathematics and astronomy in Sanskrit

Modules	**Lectures and interactive tutorials: September 18-22 2019**
You Should Attend…	▪ to learn about the history and philosophy of mathematics from a variety of sources — culled out from different civilizations, Babylonian, Greek, Chinese, Indian and Islamic — and to critically evaluate that information, ▪ to understand these developments in terms of the historical and cultural context in which they occurred, and their connection to the various concepts that are employed in modern mathematics,

	▪ to sufficiently equip yourselves to engage with peers and with lay people about developments and themes in the history and philosophy of mathematics.
Fees	The participation fees for taking the course is as follows: **Students: 3000, Others 5900, Participants from abroad INR 35,000** The above fee includes all instructional materials, computer use for tutorials, 24hr free internet facility. The participants will be provided with accommodation on payment basis.

The Faculty

Clemency Montelle is a professor in the school of Mathematics and Statistics, University of Canterbury, Christchurch, New Zealand. Her research interests combine the rare skills of critical ancient languages, including Sanskrit, Ancient Greek Latin, Classical Arabic, and Cuneiform, with an extensive background in mathematics to critically edit, translate and write commentaries on ancient and medieval mathematical manuscripts that have never been studied before. She is currently working on numerical tables and computational practices in Sanskrit sources from the second millennium and has recently published *Sanskrit Astronomical Tables* as part of the Springer Yellow Series.

K. Ramasubramanian is a professor at the Cell for the Indian Science and Technology in Sanskrit, Department of Humanities and Social Sciences, Indian Institute of Technology Bombay, India. He holds a doctorate in theoretical physics, a master's in Sanskrit, and a bachelor's in engineering—a weird but formidable combination of subjects to do multi-disciplinary research. He is one of the authors who prepared detailed explanatory notes of the celebrated works *Ganita-yuktibhasha* (rationales in mathematical astronomy) *Tantrasangraha and Karana-paddhati*, which bring out the seminal contributions of the Kerala school of astronomers and mathematicians.

Course Co-ordinator

Prof. K. Ramasubramanian
Phone:+91- 022- 25767368
E-mail: mullaikramas@gmail.com

Contact Person:
Sushama Sonak
Phone:+91- 99670 45761
Email: chdm.sandhi@gmail.com

.....

GIAN Short Term Course on

Mathematics in Perspective

A History of Mathematics from Ancient to Modern

18 September 2019 – 22 September 2019

Registration Form

Name (in block letters): _____

Qualification: _____

Designation: _____

Organization: _____

Mailing Address: _____

_____

_____

Mobile: _____

Email: _____

Payment: Rs: _____

IIT Guest House/ Hostel accommodation required (will be provided as per availability and on a payment basis): **YES / NO**

Signature of Applicant:

Date:

Venue for Classes: Classes will be held in the Seminar Hall, Ground floor, Vanvihar Guest House, IIT Bombay, Powai, Mumbai 400 076.

Lecture Notes: To fully realize the objectives of the course, the lecture notes will be made available during the course at IIT Bombay.

Date and Time of Registration: 18 September 2019, 9.00 AM at Seminar Hall, Ground floor, Vanvihar Guest House, IIT Bombay, Powai, Mumbai 400 076.

COURSE FEE

1. **Students & Research Scholars: INR 3,000**
2. **Academic Institutions/ Faculty/ NGO: INR 5,900**
3. **Participants from abroad: INR 35,000**

The above fees include all instructional materials, computer use for tutorials and assignments, free internet facility. Subject to availability, the participants will be provided with accommodation on payment basis. This payment will be made separately by the participant at the accommodation venue.

Please tick appropriate option for your mode of payment of course fees (Online transaction/ Demand draft).

Logging in at https://portal.iitb.ac.in/ceqipapp/courseDetails.jsp?c_id=2203

You will have to create a login ID, look up this course and fill up a registration form. After approval of the faculty coordinator, you can pay the fees.

1. **Please include the online transaction details here:**

- Date: _____
- Transaction number: _____
- Transaction amount: _____

OR

2. **Demand draft drawn in favour of "The Registrar, IIT Bombay - CEP Account".**

If payment is by DD, please furnish the following details:

- DD No.: _____
- Date: _____

All completed registration forms with bank transaction details may be mailed to:

Prof. K. Ramasubramanian

Cell for Indian Science and Technology in Sanskrit
Department of Humanities and Social Sciences
IIT Bombay
Powai, Mumbai, India
Pin Code 400 076

Contact Mobile No: +91-9967045761

Email: chdm.sandhi@gmail.com