TRAINING COURSES

BUILDING WITH ARCHES, VAULTS AND DOMES (AVD)

Three programmes of **two-week long** training courses are regularly scheduled every year at Auroville.

First week: AVD Theory

The first week is theoretical and approaches the stability study of vaulted structures. **This week is only for engineers, architects or students**. Courses given are:
- Symbolism & historical development – Terminology & Typology – Basic structural principles (PPT)
- Diversity of arches (PPT)
- Diversity of vaults and domes (PPT)
- Vaults and domes from earth (Video)
- Evaluation of the stability of domes – Neutralisation of the thrust (PPT)
- Various details about AVD (acoustics, formulas) (PPT and exercices)
- Catenary method (theory and practice)
- Funicular method (theory and practice)
- Optimisation method (theory and practice)

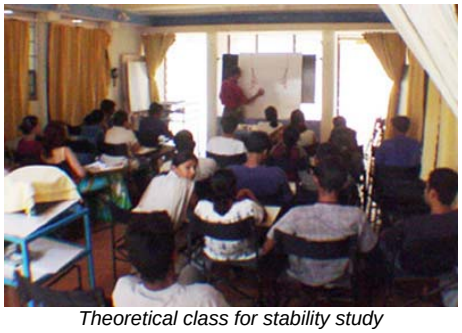
Half of the week is spent to study a vault / dome section as a personal work, with teacher's oversight and feedback.

At the end of each day, we give a case study:
- Gaudi works in Barcelona (PPT)
- AVD in Iran (PPT)
- Dome of the Dhyanalinga temple (PPT)
- Vaults of the Earth Institute Training Centre (PPT)
- Equilateral vault – Bucket pointed vault, (PPT)
- Equilateral groined vault – Semicircular vault (PPT)
- Segmental groined dome – Gayatri dome (PPT)

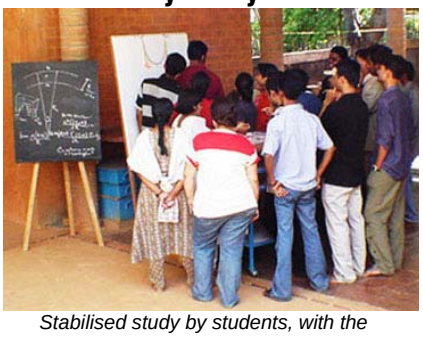
Second week: AVD Masonry

The second week is practical and trainees are building various arches, vaults and domes. **This course welcomes all skills**: engineers or architects, technicians or supervisors, masons or students and laymen.

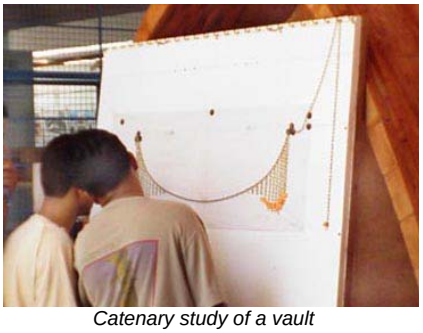
First week on theory and stability study of vaulted structures



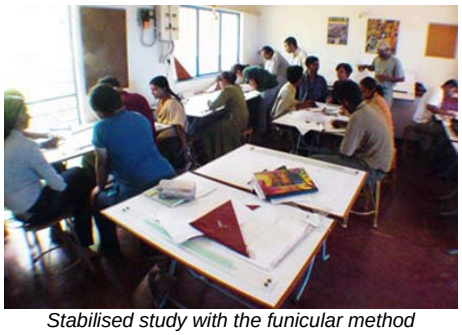
Theoretical class for stability study



Stabilised study by students, with the catenary method

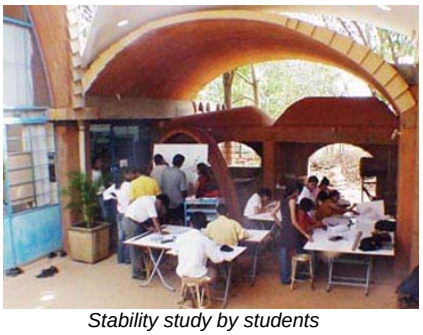


Catenary study of a vault



Stabilised study with the funicular method

Stabilised study with the funicular method



Stability study by students

Second week on building vaulted structures

Building various types of arches

Building various types of arches

Semicircular and segmental arches

Enjoying the strength of a segmental arch

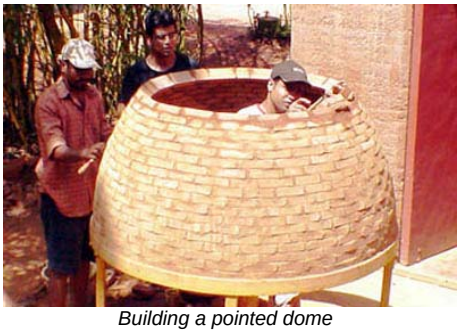
Enjoying the strength of a segmental arch

Building a corbelling segmental vault with the Nubian technique

Building various domes

Building a hemispherical dome

Building a hemispherical dome



Building a pointed dome

Building a segmental dome

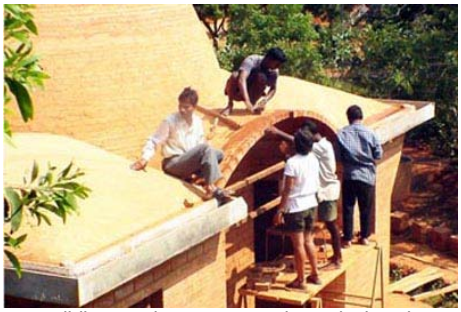
Building a conical dome

Building a cloister arch dome

Building a squinche dome

Building various domes

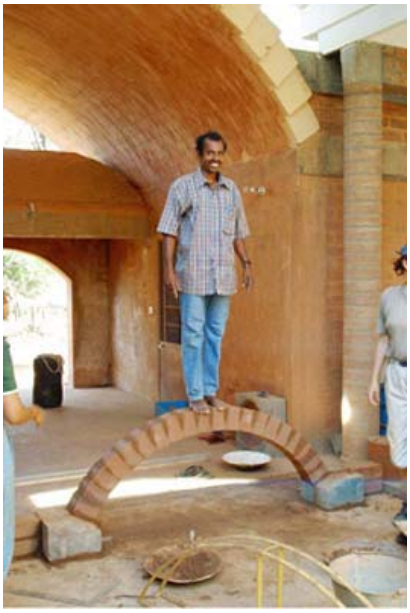
Building on site a pointed octagonal dome



Building on site a segmental - conical vault

Building on site a segmental vault

Building various types of arches



Testing a segmental arch

Testing the strength of a pointed arch