

Outcomes of Vijnan Manthan 2.0

- By the end of this course, the students will be able to understand, and actively make use of the scientific method in their daily lives.
- One of the major objectives of this course is to acquaint students with the notion of unification, and make them understand the interdisciplinary nature of the sciences.
- By making this course inquiry oriented, we prepare the students to think like scientists, and apply this thinking in real world scenarios.
- Another major outcome of this course is to expose the students to a wide variety of scientific areas, building bridges between several seemingly unrelated fields and breaking down misconceptions or shedding light on 'impossibilities'.
- By adding an aspect of discussion and debate to the program, the students will get a taste of collaboration and learning from their peers. This will prepare students to excel in research groups and projects involving several people.

Expectations from Students

- **Curiosity:** Students who display a natural curiosity about the world around them and ask questions about how things work.
- **Critical Thinking:** Those who can think critically, identify problems, and come up with creative (out of the box) solutions.
- **Strong Math Skills:** A solid foundation in mathematics is crucial for many branches of science.
- **Passion for Exploration:** Students who enjoy conducting experiments, making observations, and exploring new ideas are likely to thrive in a rigorous science program.
- **Skepticism:** Questioning and reshaping worldviews is an essential part of the scientific discovery process.
- **Persistence and Resilience:** Science often involves facing challenges and setbacks. Hardworking children who persevere and continue to seek answers would demonstrate potential.
- **Discussion:** Students learn not only from lectures and problem-solving, but also from discussion with their peers. Involving in discussions leads to the development of meaningful ideas.
- **Independence:** Collaboration is essential, but students need to have a good understanding of topics and methods of research to contribute to the table.
- **Extracurricular Involvement:** Participation in science-related extracurricular activities, such as science clubs, science fairs, or STEM camps, can be a sign of a strong interest and aptitude for science.

Logistics

- **Weekly Session:** Saturday, 7:30 PM - 9:00 PM IST
- **Discussion Session:** TBD based on availability of interested students (open to all students of this as well as previous VM batch). This session will alternate between being a more open discussion about that week's lecture topic, and sharing resources and strategies for students to get started/excel in research (mentors will discuss how they got started in research, what projects they are currently working on, common mistakes and things to be wary of while working on a research problem)
- **Homework/Assignments:** Depending on the topic, there will be a few curated questions assigned to the students. These will be questions that require out of the box thinking, and cannot be solved by plugging values into formulas or looking up answers on the internet.
- **Guest Lectures:** We are planning to have one guest speaker come in every month. They will talk about their area of interest, how they first got into and kept working in that field, and how scientific thinking can be applied to their work.
- **Activities/Projects:** Every once in a while, we plan on assigning activities to students that they carry out individually/as a group. These will be practical, interactive applications of whatever they have learnt in the course, and will greatly help develop their understanding of the material.