KCG VERGHESE SAT

A satellite by the students; for the society

Azadi Ka Amrit Mahotsav

75 STUDENTS' SATELLITES MISSION 2022

To commemorate the 75th year of independence, India is planning to launch 75 satellites into space, which Indian Students are developing in Schools and Colleges

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Hon'ble Prime Minister
Shri Narendra Modi Ji
United Nations General Assembly
New York, Sep 25, 2021

For Space Dreamers!

Most awaited day has arrived to join Hindustan Group of Institutions (HGI) to realize your space dream. HGI has recently signed an MoU with ITCA (Indian technology Congress Association) and TSC in collaboration with ISRO for launching the Nano Satellite into the space as a part of Students' Satellite Mission 2022. HGI aims at turning this mission as "KCG VERGHESE SAT: A satellite by the students; for the society".

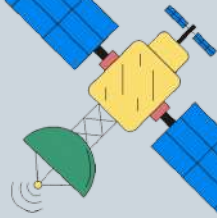
As a part of success path into a new Space Era 4.0,

- **HGI is engaged in design, development, test & launch of nano-satellite in collaboration with ISRO / ITCA**
- **The program includes the expert lectures by renowned scientists**
- **Selected students will get the benefits of Internship & Hands on training related to satellite technology.**

About HGI

HGI has more than 5 decades of educational excellency. HGI has the prime motto of "To make every man a Success and No man a failure". HGI takes the pride of giant leaping into space by launching the Satellite program exclusively by the students.

This program is a tribute to our Visionary Founder Late Dr. KCG Verghese, who was passionate on venturing into the space and excel in aviation industry.



Mission Objectives

- Design & Development of Nano Satellite
- Demonstrating Inter-satellite communication as constellation in Lower Earth Orbit (LEO)
- Establishment & Validation of Satellite Ground Control Station (GCS)
- Real time satellite tracking
- Communication payload, monitoring for IoT platform
- Satellite data collection for societal benifits

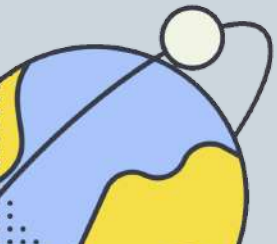
Salient Features of KCG Verghese SAT

1 U Nano Satellite (1.6 kg)

CubeSat (10*10*10 cm)

Orbiting at 500 km for 2 years

HITS NANO SATELLITE CENTRE



Student Outcomes

- Internship/ project work at Space Tech Industries
- Honors Program in Satellite Technology / Satellite Communication with 12 additional credits - each course with 3 credits (2 courses per semester) being taught by veteran scientists from ISRO, DRDO and other R&D organizations
- Involvement in the ground station establishment
- Satellite monitoring and application development
- Design and Development of CAN/ Nano Satellite & IoT based Satellite Payloads
- Leadership assistance, students' project ideas and knowledge repository on student satellites through Publications, Patents and IPRs in the areas of Nano Satellites/De-Orbiting Mechanisms/Ground Stations etc.
- Support for World CanSat/Rocketry Championships (WCRC)/ Continental/ National/ Regional Workshops/ Seminars/ Competitions in India/ Abroad

Honors Courses

AERO/AEROSPACE/MECHANICAL/MECHATRONICS STREAM

1. Basics of Satellite Technology and its applications
2. Structure, Thermal & Mechanisms of Satellites
3. Orbital Optimization*
4. CUBESAT simulation
5. Micro Propulsion Systems
6. NanoSat System Design
7. Assembly, Integration & Testing

CSE/ECE/EEE/IT STREAM

1. Basics of Satellite Technology and its applications
2. Determination & Control Systems (ADCS)*
3. Onboard Computers (OBC)*
4. Satellite Power Systems
5. Telemetry & Telecommand
6. Antenna Design & Simulation*
7. Assembly Integration & Testing

*integrated with MATLAB

Course Collaborators

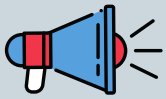
1. Eminent scientists from ISRO/ DRDO & other R & D organizations
2. Experts from HGI
3. Committee for Space Development (CSPD, Serbia)
4. UNISEC, India
5. ITCA
6. TSC Technologies Pvt. Ltd.
7. GeekSpace Labs

Who can participate ?

- **Eligibility**
  - **All Engineering & Technology students of HGI groups**
  - **Faculty from Engineering & Technology Departments**

- **Fee Structure:**

  ₹ 25,000 per student for the comprehensive program



- **Be a part of our nation's celebration of 75 years of Indian Independence**
- **Selected students will get opportunity to visit the launching station at Sriharikota on the most remarkable day with the presence of Hon'ble Prime Minister Narendra Modi**

REGISTER ON OR BEFORE 16-MAY-2022

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