भारत अंतरिक्ष अकादमी /INDIA SPACE ACADEMY
भारत अंतरिक्ष सप्ताह /INDIA SPACE WEEK

अंतरिक्ष शिक्षा विभाग
DEPARTMENT OF SPACE EDUCATION

Space Teacher Training Programme

Our Vision is t bring space knowledge to grassroots lebels, inspiring students to become future space leaders.

(Programme Structure)

INDIA SPACE ACADEMY
(A unit of India Space Week)

New Delhi-India

Phone : 011-35809475

Email: contact@isa.ac.in

Visit : www.isa.ac.in

About Us

India Space Academy is a programme initiated by India Space Week, focuses on providing inclusive space education by ensuring access, equity, and quality. It aims to bridge the educational divide, bringing top-tier learning resources to disadvantaged students and integrating them into the knowledge economy, particularly in space science and technology.

The Government of India, led by **PM Shri Narendra Modi**, has introduced major reforms to boost space education, research, and development. A key initiative is India Space Academy, an autonomous institute driving innovation in the space sector.

Our Associate Government: - Delhi, Uttar Pradesh, Uttarakhand, Haryana Rajasthan, Madhya Pradesh, Gujarat, Assam, Arunachal Pradesh, Mizoram, Bihar Punjab, Himachal Pradesh etc.

India Space Week is an autonomous institute which is affiliated/associated to **UNITED NATION GEOSPATIAL INFORMATION** and **MANAGEMENT(UN-GGIM Academic Network) NASA, JAXA, ISRO IN-SPACE EUROPIAN SPACE AGENCY, EGYPT SPACE AGENCY** and Member of Indian Society of Geomatics and Indian Society of Remote Sensing.

Curriculum Research Institute: India Space Week's Curriculum Research Institute creates space science courses under the National Education Policy, guided by experts from ISRO, NASA, JAXA, and IITs.

INDIA SPACE WEEK: India Space Week, an autonomous institute supported by the Government of India, organizes educational programs to inspire students in space science in collaboration with central and state governments. Held annually from August 12 to 18, it celebrates the birth of Dr. Vikram Sarabhai, the founder of ISRO.

About Course

The Space Teacher Training Program, curated by India Space Week, is a comprehensive course designed specifically for graduate students. This program equips aspiring educators with a dual focus: space science and effective teaching methodologies. Participants delve into the fascinating world of space exploration, covering topics such as celestial bodies, planetary science, and cutting-edge technology. Simultaneously, they receive specialized training in pedagogical techniques that make learning engaging and enjoyable. The course strikes a balance between theory, hands-on sessions, and exciting DIY projects. Drawing inspiration from national standards like the New Education Policy and the National Professional Standards for Teachers, this program prepares future astronomy teachers to inspire curiosity and scientific literacy among their students.

Our Vision

Our Vision for the Space Teacher Training Programme is to empower educators with advanced knowledge and teaching methodologies in astronomy, enhancing their expertise and teaching skills. By providing cutting-edge resources and training, we aim to foster academic excellence, encourage innovative teaching approaches, and cultivate a new generation of astronomy educators. This program aspires to strengthen the space education ecosystem and inspire students to pursue careers in astronomy and space sciences.

Ultimately, we aspire to cultivate a network of passionate astronomy educators who inspire their students to explore the wonders of the universe, pursue careers in space sciences, and contribute to advancements in scientific research and discovery. By nurturing a strong foundation in astronomy education, we hope to help shape informed and curious individuals who will drive future innovations in the field.

Course Objective

Deep Understanding of Space Science:

Equip participants with a comprehensive knowledge of space-related concepts, including celestial bodies, planetary science, and cosmic phenomena.

Foster an appreciation for the wonders of the universe.

Effective Teaching Methodologies:

Train aspiring educators in innovative teaching techniques that make learning astronomy engaging and enjoyable.

Explore interactive approaches, storytelling, and hands-on activities to inspire students.

Balanced Approach: Theory, Hands-On, and DIY Projects:

Provide a holistic learning experience by combining theoretical foundations with practical applications.

Encourage participants to design and implement creative DIY projects related to space education.

Alignment with National Standards:

Ensure that the program adheres to national educational standards, such as the New Education Policy and the National Professional Standards for Teachers.

Prepare future astronomy teachers to meet the evolving needs of Indian education.

The Indian Space Sector

The Indian space sector has been globally recognized for its achievements in building cost-effective satellites, launching lunar probes, and facilitating foreign satellite launches. While currently constituting 2-3% of the global space economy, India aims to enhance its share significantly. By leveraging strategic goals, such as robust Earth observation data systems, improved ground networks, and becoming a global hub for small satellites, India envisions a space economy valued at $44 billion by 2033. This growth trajectory, supported by private, public, and startup collaborations, holds immense potential for socio-economic benefits and technological advancements in the country.

Space Education

India's ambitious space sector growth relies on a well-prepared workforce and a thriving ecosystem. Here's how space education contributes:

Skill Development

Space education equips students with essential skills—STEM knowledge, data analysis, and problem-solving.

These skills are vital for designing and operating satellites, analyzing Earth observation data, and developing cutting-edge technologies.

Nurturing Innovators

Space education inspires innovation. When students explore celestial phenomena, they think creatively.

Innovators emerge from classrooms, fueled by curiosity about the cosmos.

Collaboration and Research

Space education fosters collaboration. Students engage with researchers, industry experts, and international partners.
Collaborative research accelerates India's space capabilities.

Entrepreneurship and Startups

Space startups are booming. Space education encourages entrepreneurial thinking.

Graduates launch ventures—building CubeSats, offering launch services, or creating space apps.

Public Awareness and Advocacy

Educated citizens appreciate space achievements. They advocate for funding, policy support, and scientific literacy.

Space education fuels public enthusiasm, driving national priorities.

Desired Teacher

Quality space education hinges on skilled educators who can ignite curiosity and guide students toward the cosmos. These teachers bridge the gap between textbooks and the wonders of the universe. They inspire young minds, nurture scientific thinking, and foster a love for exploration. Expertise in astronomy, planetary science, and space technology equips them to deliver engaging lessons. As India aims for a thriving space sector, investing in teacher training ensures that our students receive the best possible education—one that fuels innovation, national pride, and a brighter future among the stars.

Benefits to the students

1. Expertise in Space Science:

- Participants gain a deep understanding of celestial bodies, planetary systems, and cosmic phenomena.
- This knowledge enriches their scientific literacy and inspires awe for the universe.

2. Effective Teaching Skills:

- Students learn innovative teaching methodologies tailored for astronomy.
- They acquire skills to make learning fun, engaging, and memorable for future students.

3. Career Opportunities:

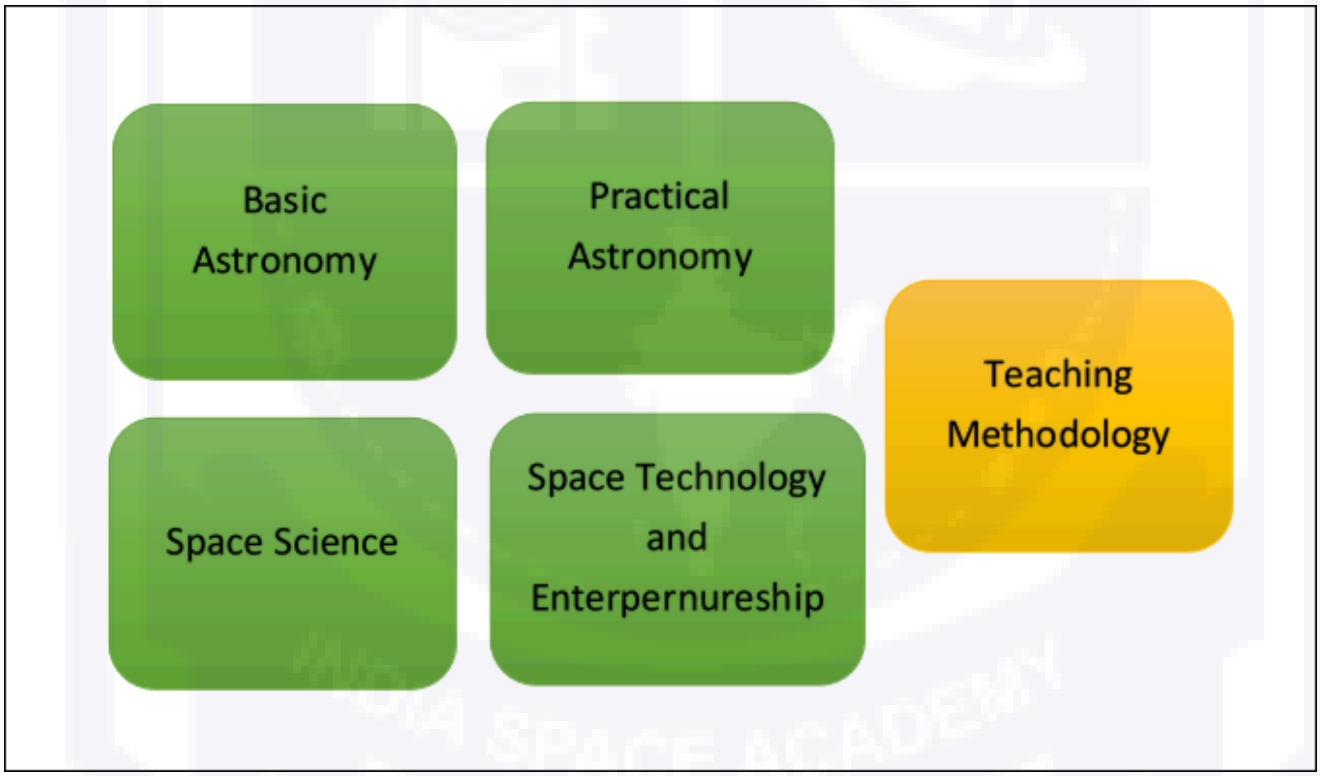
- Graduates become well-prepared astronomy educators, ready to teach in schools, planetariums, and science centers.
- The program opens doors to exciting careers in education and science communication.
- India Space Week will hire the best candidate as an astronomy educator.

3. National Impact:

- Trained teachers contribute to India's scientific progress by nurturing the next generation of space enthusiasts.
- Their impact extends beyond classrooms, fostering a space-literate society.

Curriculum Overview

The curriculum for a space teaching course includes an introduction to space science, covering the solar system, stars, galaxies, and celestial mechanics. It explores the history of space exploration, major space missions, and the technologies behind human and robotic spaceflight. Students will also learn about space agencies like ISRO, NASA, JAXA current advancements, and the future of space travel, including missions to the Moon and Mars.



Module Name	Serial No	Topic Name
Astronomy Basics	1	Introduction to astronomy
	2	History of astronomy
	3	Introduction to the night sky
	4	Model of the universe
	5	Shape of Earth
	6	Grid on the Earth
	7	Grid on the Celestial Sphere
	8	Coordinate of a local sky
	9	Motion of the sky
	10	Motion of the Earth
	11	Motion of the Sun in sky
	12	Celestial Events
	13	Time and Date
	14	Modern Observatories
	15	Astrometry
Module Name	**Serial No**	**Topic Name**
Practical Astronomy	1	Planning Observation
	2	Naked Eye Observation
	3	Binoculars
	4	Telescope
	5	Astrophotography
	6	Sky Observation
	7	Amateur Astronomy Clubs And Events

Module Name	Serial No	Topic Name
Space Science	1	The Solar System
	2	The Stars
	3	Galaxies
	4	Cosmology
	5	Astrobiology
Module Name	**Serial No**	**Topic Name**
Space Tech & Entrepreneurship	1	Rockets
	2	Satellites
	3	Space Explorations
	4	Space colonisation
	5	Space Law and Military
	6	Initiative of India and Indian government
	7	Space Agencies
Module Name	**Serial No**	**Topic Name**
Background Science knowledge	1	Scientific Methods
	2	Motion
	3	Force
	4	Light and radiation
	5	Optics
	6	Magnetism

Schedule

Eligibility	Graduated
Course Duration	6 Months
Lecture Hours	120 Mins Per Lecture
Mode Of Study	Online
Fees	7,540/-

COURSE REGISTRATIONS AND RECEPTION

COURSE REGISTRATION

- The online course for all science graduate (https://isa.indiaspaceweek.org/course_registration/)

- The registration link is available in above link of **India Space Academy** ((https://isa.ac.in/) portal

TECHNICAL REQUIREMNET

- Device- Desktop Computer/Laptop/Mobile;
- Operating System- Windows, Macintosh, Linux, Android or IoS;
- Web browser- Google Chrome, Firefox, Microsoft Edge or Safari;
- Internet speed- 2 Mbps or 3G and above connectivity;
- URL for course reception- https://isa.ac.in

AWARD OF CERTIFICATE

- Certificate will be provided to the students, Basd on 75% attendance.
- The Space Teacher Training Programme Certificate will be awarded from ISA, ISW after scoring minimum 75% marks in S-TET (Space Teacher Eligibility Test).

CONCLUSION

- The Space Teacher Training Program is more than just a course; it's a launchpad for inspiring the next generation of space enthusiasts. As we prepare graduate students to become skilled astronomy educators, we envision a ripple effect—a universe of curious minds ignited by the wonders of the cosmos. Let's embark on this cosmic journey together, nurturing scientific literacy, fostering innovation, and propelling India toward the stars.

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www.isa.ac.in
contact@isa.ac.in
BA-14B, Janak Puri, New Delhi 110058
011-35809475 / 7290071471