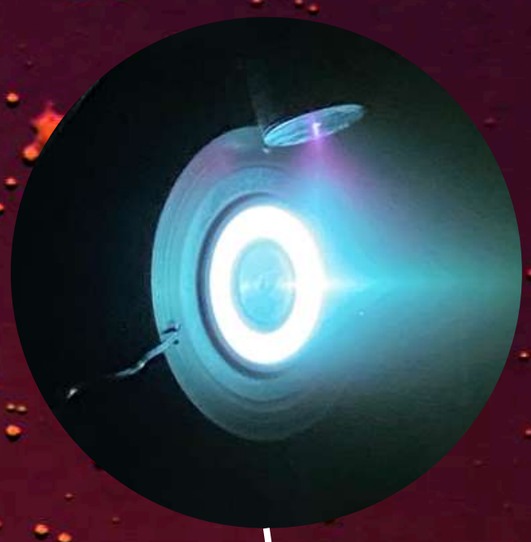
IN-SPACe Short-Term Skill Development

Course on

Advances in Propulsion System for Launch Vehicles, Satellites and Landing Missions



IN-SPACe Short-Term Skill Development Course on "Advances in propulsion system for launch vehicles, satellites and landing missions"

Government of India under the visionary leadership of Hon'ble PM Shri Narendra Modi has initiated historic space sector reforms. The objective of space reforms is to make India a leading space economy globally, through increased private sector participation. Indian National Space Promotion and Authorization Centre (IN-SPACe) has been formed under Department of Space (DOS), to promote, enable, authorize and supervise Non-Government Entities (NGEs) and academia to undertake space activities.

Skill development of Industry and Academia in Space Sector

OBJECTIVE

In order to transform the Government's vision to reality, IN-SPACe in association with ISRO, NGEs and Academia is pleased to announce registration for the Short-Term Course on "Advances in propulsion system for launch vehicles, satellites and landing missions". This unique course is designed for the benefit of NGEs and Academia on Advances in propulsion system for launch vehicles, satellites and landing missions.

COURSE INFORMATION

The course on "Advances in propulsion system for launch vehicles, satellites and landing missions" is curated to empower the participants with basic understanding of the Propulsion systems for launch vehicles and spacecraft. The course starts with an introduction to the basics of propulsion systems and various types of propulsion systems currently in use, and planned for use in Gaganyaan etc. Advanced materials, sensors, instrumentation & control systems for design of propulsion systems are covered. The manufacturing, assembly, integration and test aspects, test facilities and quality assurance are also touched upon. Finally, emerging trends in propulsion technology like green propulsion, LOX Methane Propulsion etc. are also addressed. Invited lecturers from representatives of Startups/Industry will provide the entrepreneurial perspective in the area of launch vehicle and spacecraft propulsion systems.

ABSTRACT

Inaugural Session (25-10-2026)			
Time	**Keynote talk**		
15:00 - 18:00 Hrs.	Inaugural Session	Keynote talk: Space Transportation Systems & Propulsion systems Roadmap	LPSC/ IIST
DAY-1 (26-10-2026)			
Time	**Module**	**Title of Talk**	**Faculty/Course Instructor**
09:00 - 10:00 Hrs.	Fundamentals	L1 : Fundamentals of Propulsion Systems	Dr. Priyank Kumar, Associate Prof., BIT Mesra
10:00 - 10:15 Hrs.	Tea Break		
10:15 - 11:15 Hrs.	Conventional Propulsion System	L2 : Solid Propulsion - Introduction and Latest Trends	Dr. Rajiv Kumar, BIT Mesra
11:15 - 11:25 Hrs.		Break	
11:25 - 12:25 Hrs.		L3 : Earth Storable Propulsion and Advanced Concepts	Dr. Arun Kumar, Former DD, LPSC
12:25 - 13:15 Hrs.		Lunch Break	
13:15 - 14:15 Hrs.		L4 : Cryogenic Engines & Stage Systems	LPSC
14:15 - 14:30 Hrs.		Tea Break	
14:30 - 15:30 Hrs.		L5: Advanced Spacecraft Propulsion & Electric Propulsion Systems (EPS) - Introduction & Global Scenario	LPSC(B)
15:30 - 15:40 Hrs.	Break		
15:40 - 16:40 Hrs.	Materials, production, Assembly, Integration & Test	L6 : Advanced Manufacturing process for Propulsion System and special materials	Dr.Bhanu Pant, IIT R
16:40 - 17:00 Hrs.	High Tea		
17:00 - 18:00 Hrs.	Practical Aspects	P1 : Propulsion Budget for a typical Geo-synchronous Spacecraft	TBD (From URSC)
19:00 - 20:00 Hrs.	Networking Session among participants - 1		
20:15 - 21:15 Hrs.	Dinner		

DAY-2 (27-10-2026)			
Time	**Module**	**Title of Talk**	**Faculty/Course Instructor**
09:00 - 10:00 Hrs.	Propulsion Systems for various missions	L7 : Propulsion System for Human Space Programme	Mr. Aneesh Rajan, LPSC
10:00 - 10:15 Hrs.		Tea Break	
10:15 - 11:15 Hrs.		L8: Propulsion in advanced weapon systems	TDB/DRDL
11:15 - 11:25 Hrs.		Break	
11:25 - 12:25 Hrs.		L9 : Propulsion Systems for Future Space Transportation Systems	LPSC
12:25 - 13:15 Hrs.	Lunch Break		
13:15 - 14:15 Hrs.	Sensors, Instrumentation & Control	L10 : Advanced Sensors for propulsion systems	Shri AVN Namboodiripad, ATL
14:15 - 14:30 Hrs.		Tea Break	
14:30 - 15:30 Hrs.		L11: Advanced Instrumentation and Control System	Shri AVN Namboodiripad, ATL
15:30 - 15:40 Hrs.	Break		
15:40 - 16:40 Hrs.	Industry Talk - 1	L12: Propulsion systems for cubesat, microsat and futuristic platforms	TBD
16:40 - 17:00 Hrs.	High Tea		
17:00 - 18:00 Hrs.	Practical Aspects	P2: Propulsion System related On-Orbit Operations in Geo Synchronous Spacecraft	LPSC(B)
19:00 - 20:00 Hrs.	Networking Session among participants - 2		
20:15 - 21:15 Hrs.	Dinner		

DAY-3 (28-10-2026)			
Time	**Module**	**Title of Talk**	**Faculty/Course Instructor**
09:00 - 10:00 Hrs.	Sensors, Instrumentation & Control	L13 : Control System & Components in Liquid Propulsion	Mr. Aneesh Rajan
10:00 - 10:15 Hrs.	Tea Break		
10:15 - 11:15 Hrs.	Materials, production, Assembly, Integration & Test	L14 : Special materials for Advanced Propulsion	Dr.Bhanu Pant, IIT R
11:15 - 11:25 Hrs.	Break		
11:25 - 12:25 Hrs.	Materials, production, Assembly, Integration & Test	L15 : Propellant Production & Storage	Mr.David Dasan, Former GM, IPRC/ISRO
12:25 - 13:15 Hrs.	Lunch Break		
13:15 - 14:15 Hrs.	Propulsion Systems for various missions	L16: Spacecraft Propulsion Systems	Dr.Arun Kumar.P, Former DD, LPSC(V) & POP BIT Mesra
14:15 - 14:30 Hrs.	Tea Break		
14:30 - 15:30 Hrs.	Materials, production, Assembly, Integration & Test	L17 : Assembly & Integration of Advanced Propulsion Systems	Dr. Rajeev Senan, LPSC-B
15:30 - 15:40 Hrs.	Break		
15:40 - 16:40 Hrs.	Industry Talk - 2	L18 : Journey of Manastu Space and Green Propulsion System in Satellites	Space Startup
16:40 - 17:00 Hrs.	High Tea		
17:00 - 18:00 Hrs.	Practical Aspects	P3 : Use of Hybrid rocket system for velocity trimming package and for landing application	Dr. Rajiv Kumar, BIT Mesra
19:00 - 20:00 Hrs.	Networking Session among participants - 3		
20:15 - 21:15 Hrs.	Dinner		

DAY-4 (29-10-2026)			
Time	**Module**	**Title of Talk**	**Faculty/Course Instructor**
09:00 - 10:00 Hrs.	Test facilities	L19 : Test Facilities for Liquid Propulsion Systems	Mr.David Dasan, Former GM, IPRC/ISRO
10:00 - 10:15 Hrs.	Tea Break		
10:15 - 11:15 Hrs.	Launch Vehicle - Subsystems related to Propulsion	L20: Thermodynamics & Thermal Management of Propulsion Systems	TBD/ IITM
11:15 - 11:25 Hrs.		Break	
11:25 - 12:25 Hrs.		L21 : Launch Vehicle - Avionics for Propulsion System (CE/EPS)	RCI
12:25 - 13:15 Hrs.		Lunch Break	
13:15 - 14:15 Hrs.		L22: Launch Vehicle - Pyro System for Propulsion	TBD/ DRDL
14:15 - 14:30 Hrs.	Tea Break		
14:30 - 15:30 Hrs.	Propulsion Systems - Emerging trends OR Advanced Propulsion Systems	L23 : Semicryogenic Engine & Stage Systems	Shri Aneesh Rajan, LPSC
15:30 - 15:40 Hrs.	Break		
15:40 - 16:40 Hrs.	Industry Talk - 3	L24 : Satellite propulsion solutions that push boundaries	Space Startup
16:40 - 17:00 Hrs.	High Tea		
17:00 - 18:00 Hrs.	Practical Aspects	P4: Navigation, Guidance and Control Systems Design for Propulsion based Planetary Landing Missions	TBD/ URSC
19:00 - 20:00 Hrs.	Networking Session among participants - 4		
20:15 - 21:15 Hrs.	Dinner		

DAY-5 (30-10-2026)			
Time	**Module**	**Title of Talk**	**Faculty/Course Instructor**
09:00 - 10:00 Hrs.	Propulsion Systems - Emerging trends OR Advanced Propulsion Systems	L25 : LOX Methane Propulsion	Shri. Aneesh Rajan, PD, LME-KT, CPES, LPSC-V
10:00 - 10:15 Hrs.		Tea Break	
10:15 - 11:15 Hrs.		L26 : Hybrid Propulsion System	Dr. Rajiv Kumar, BIT Mesra
11:15 - 11:25 Hrs.		Break	
11:25 - 12:25 Hrs.		L27 : Green Propulsion	Dr. Shelly Biswas, BIT Mesra
12:25-13:25 Hrs	Test		
13:25-14:15 Hrs	Lunch Break		
14:15- 15:15 Hrs.	Industry Talk - 4	L28: Advancements and innovations in propulsion systems: From traditional engines to cutting edge technologies	Agnikul
15:15 - 16:15 Hrs.	Industry Talk - 5	L29: Lessons learnt during the realization of Vikram-1	Skyroot
16:15 - 16:30 Hrs.	Tea Break		
16:30 - 17:30 Hrs.	R & QA	L30 : Reliability and Quality Assurance for Space Systems	Resident Expert, IN-SPACe
17:30-19:00 Hrs	Feedback & Valedictory Session		

DAY-6 (31-10-2026)	
07:45 - 08:45 Hrs.	Breakfast
09:00 - 14:00 Hrs.	Facility Visit (Optional, subject to feasibility)
14:00 - 15:00 Hrs.	Lunch

How to Apply

Interested applicants can submit their details along with course fee at www.inspace.gov.in.

Who can Apply?

Academicians, Industry Executives, Graduates, Postgraduates and Researchers & Final year appearing graduate students

Course Directors: Dr. Priyank Kumar, Head, Space Engineering & Rocketry, BIT Mesra,
Shri A R Murali Sankar, Resident Expert , IN-SPACe &
Shri. Deepak Kumar Panda , Deputy Director, IN-SPACe

Course Co-Ordinator: Dr. Arun Kumar P., Professor of Practice, Space Engg.& Rocketry, BIT Mesra &
Dr. Vaibhav Gaur , Assistant Director, IN-SPACe

Commencement of Course: October 25, 2026

Course Duration: October 25 - 31, 2026

Venue: Space Engg. & Rocketry Department, BIT Mesra

Mode: Residential

Course Fee: ₹15,000/-+ 18% GST = Rs 17,700/-- including food charges (non-refundable)
(QR code for payment link given at the bottom right side of this page- Go to STSDC 2026)

Accommodation Details: Rooms of different types available with a maximum charges of Rs. 1050/- (inclusive of GST) per day per person on sharing basis only. Payment to be made at the time of check out to the Guest House Manager.

Course participants are advised to report at venue on October 25, 2026, positively before 14:00 Hrs.

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Location QR code

Payment QR code