

OXFORD ACADEMY OF EXCELLENCE

EDUCATE TO INNOVATE



FUTURE SCIENTISTS, ENGINEERS, AND ASTRONAUTS PROGRAM

LAUNCH YOUR JOURNEY INTO SPACE AND INNOVATION

📍 LONDON | OXFORD | CAMBRIDGE

COURSE OVERVIEW

Step into a world of discovery with the **Future Scientists, Engineers, and Astronauts Program!** This program is designed to inspire the next generation of space explorers, innovators, and scientific leaders. Through a mix of hands-on learning, personalized mentorship, and exploration of space and science concepts, students will gain essential skills for pursuing careers in space science, engineering, and exploration.



WHY CHOOSE US?

Our program provides a fully immersive experience that prepares aspiring scientists, engineers, and astronauts for the excitement of space and innovation:

Hands-On Space and Science Experience

Engage in simulations, projects, and space-themed activities that bring the mysteries of space and science to life—all accessible in a classroom setting.

1:1 Research Project with Space and Science Experts

Choose a personalized project aligned with your interests and work with mentors from leading universities and industries related to space exploration.

University & Career Guidance

Receive expert advice on academic pathways, work experience, and application skills that support careers in science, engineering, and space.

Mentorship from Space and Science Professionals

Learn from professionals in aerospace engineering, space research, and scientific exploration who offer real-world insights.

Explore Interdisciplinary Fields

From rocket science and robotics to space biology and astrophysics, explore how these fields contribute to space exploration and innovation.

Letters of Recommendation

Exceptional students may receive personalized recommendation letters to support applications to competitive university programs and space-related careers.

Experience London, Oxford & Cambridge

Enjoy three full-day excursions exploring scientific and space-related institutions and landmarks, with time to experience these prestigious cities.



EXPLORE OUR CURRICULUM

The Academic Insights curriculum integrates essential knowledge in space science, engineering, and biology, with practical applications that give you a head start in space-related studies. Discover modules crafted to provide a strong foundation in science, technology, and exploration.



MODULE TITLE	MODULE DESCRIPTION
Module 1: Rocket Science and Propulsion Basics	Explore rocket design and the basics of propulsion using simple classroom materials. Build small-scale model rockets and learn the principles of thrust, stability, and aerodynamics, inspired by real-world rocketry.
Module 2: Astronaut Health and Space Biology	Understand the effects of space on the human body with easy-to-set-up experiments. Discover the impacts of microgravity on muscles and bones, and simulate experiments on bone density loss and cardiovascular changes.
Module 3: Robotics and Rovers for Space Exploration	Build and program simple robotic rovers using classroom kits. Learn about the design and navigation challenges that real Mars rovers face, and simulate basic movements and obstacle avoidance.
Module 4: Astrophysics and Space Observation	Study stars, planets, and galaxies with interactive star-mapping software or apps. Conduct simple activities on constellations and planetary movement to understand the fundamentals of celestial mechanics.
Module 5: Sustainable Space Habitats and Life Support Systems	Design models of space habitats using accessible materials, focusing on life support, sustainability, and radiation protection. Explore basic concepts like oxygen generation and waste management in space.
Module 6: Personalized Space Science Project	Choose a space science or engineering topic aligned with your interests. Conduct a literature review, create models, or design simple experiments, then present your findings as part of your portfolio.

CLASSROOM-FRIENDLY INNOVATION EXPERIENCE

Each activity is designed to be engaging, interactive, and ready for the classroom, offering a hands-on experience that deepens your understanding of the science and engineering driving space exploration.



Rocket Building and Launch Simulation	Build small, air-propelled rockets with simple materials like paper and straws. Simulate launch conditions and learn about propulsion, thrust, and aerodynamics in a controlled, classroom-safe way.
Space Biology Experiments	Use household materials to simulate the effects of space on the body. For example, model bone density loss using eggshells in vinegar to understand demineralization, or simulate cardiovascular challenges with simple exercises and heart-rate tracking.
Mars Rover Robotics Challenge	Use basic robotics kits to create small, programmable rovers. Program them to navigate a simulated Martian landscape using simple obstacles in the classroom, mimicking tasks like terrain navigation and object detection.
Astronomy and Telescope Basics	Explore stars, planets, and constellations with stargazing apps and paper maps. In the classroom, students can simulate star charts and practice identifying constellations, gaining basic knowledge of celestial navigation.
Space Habitat Design Workshop	Design models of space habitats using common materials like cardboard and plastic. Focus on life support systems, recycling, and energy needs. Discuss challenges like radiation shielding and simulate simple environmental control systems.
1:1 Personalized Project	Select a topic of interest in space science, engineering, or astronaut health. Work closely with a mentor to design and develop a project that uses classroom materials and accessible technology, drawing inspiration from leading research.
Professional Skills Development	Receive guidance on impactful subject choices, build a strong CV, improve interview skills, and get career insights from industry professionals in science, engineering, and space.



EXCURSIONS AND ENRICHMENT

Gain firsthand exposure to space-related institutions and science centers with excursions that connect theory to real-world exploration:

- National Space Centre – Leicester**
A top educational center dedicated to space science and astronomy, with interactive exhibits on planetary exploration, rockets, and the International Space Station.
- Imperial College London’s Space Research Labs**
Visit Imperial’s space research facilities, where students learn about satellite development, space weather, and planetary science in an academic setting.
- Cambridge Institute of Astronomy**
Explore astrophysics at the University of Cambridge’s Institute of Astronomy. Take a tour of the observatory (if available) and learn about research on black holes, galaxies, and star formation.
- The Science Museum – Exploring Space Gallery, London**
Dive into space history with exhibits on the Apollo missions, spacecraft models, and hands-on displays about space travel. An interactive experience where students can view space artifacts up close.

These excursions give students a real-world perspective on their classroom studies, allowing them to see how concepts apply in the field of space science and engineering.

	WEEKEND PROGRAM	2-WEEK SUMMER PROGRAM (MOST POPULAR)
Dates	January, March, April, May, June	July or August
Length	2 days	Up to 2 weeks
Location	In-person in London, Online	In-person in London, Oxford, or Cambridge
Residential	Non-residential	Residential

EXCLUSIVE FEATURES

FEATURE	WEEKEND PROGRAM	2-WEEK SUMMER PROGRAM
Hands-On Space and Science Experience (Simulations, Projects, Space Activities)	✓	✓
1:1 Personalized Research Project with Space and Science Mentors	x	✓
University & Career Guidance (Subject Choices, Application Skills)	✓	✓
Mentorship from Space and Science Professionals	✓	✓
Exploration of Interdisciplinary Fields (Rocket Science, Robotics, Space Biology, etc.)	✓	✓
Letters of Recommendation from Mentors	x	✓
Full-Day Excursions to Space-Related Institutions (National Space Centre, Science Museum)	x	✓
Rocket Science and Propulsion Basics	✓	✓
Space Biology Experiments	x	✓
Mars Rover Robotics Challenge	x	✓
Astronomy and Telescope Basics	✓	✓
Space Habitat Design Workshop	✓	✓
1:1 Personalized Space Science or Engineering Project	x	✓
Professional Skills Development (CV Building, Interview Prep)	x	✓
Visits to Top Space Science and Research Institutions	x	✓
Network with Ambitious Peers in Space Science	x	✓
Opportunity for Letters of Recommendation	x	✓

ALUMNI FEEDBACK

Hear from Our Alumni:

"The Future Scientists, Engineers, and Astronauts Program inspired me to pursue a career in space science. The hands-on activities and rocket-building experience were unforgettable!"

– Alex Morgan

"I loved working on the Mars Rover Challenge! This program helped me understand the role of robotics in space exploration."

– Jamie Lee

"The mentors were incredibly knowledgeable, and my personalized project in astrophysics gave me valuable insights into university-level research."

– Maria Sanchez

"This program gave me confidence in pursuing engineering. The space biology experiments were fascinating, and I now have a clear idea of the skills I need for a future in astronaut health research."

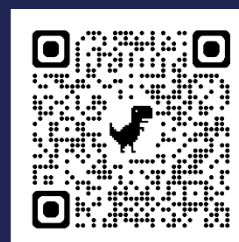
– Noah Richards

LAUNCH YOUR JOURNEY AS A FUTURE SCIENTIST, ENGINEER, OR ASTRONAUT!

The Future Scientists, Engineers, and Astronauts Program offers a unique blend of academic knowledge, practical experience, and expert mentorship. Connect with like-minded peers, develop your skills in space science and engineering, and take the next step towards a career in the fields that will shape our journey into space.

CONTACT

For more detailed information and to register,
please contact us at - courses@oxfordacademy.io



SCAN ME