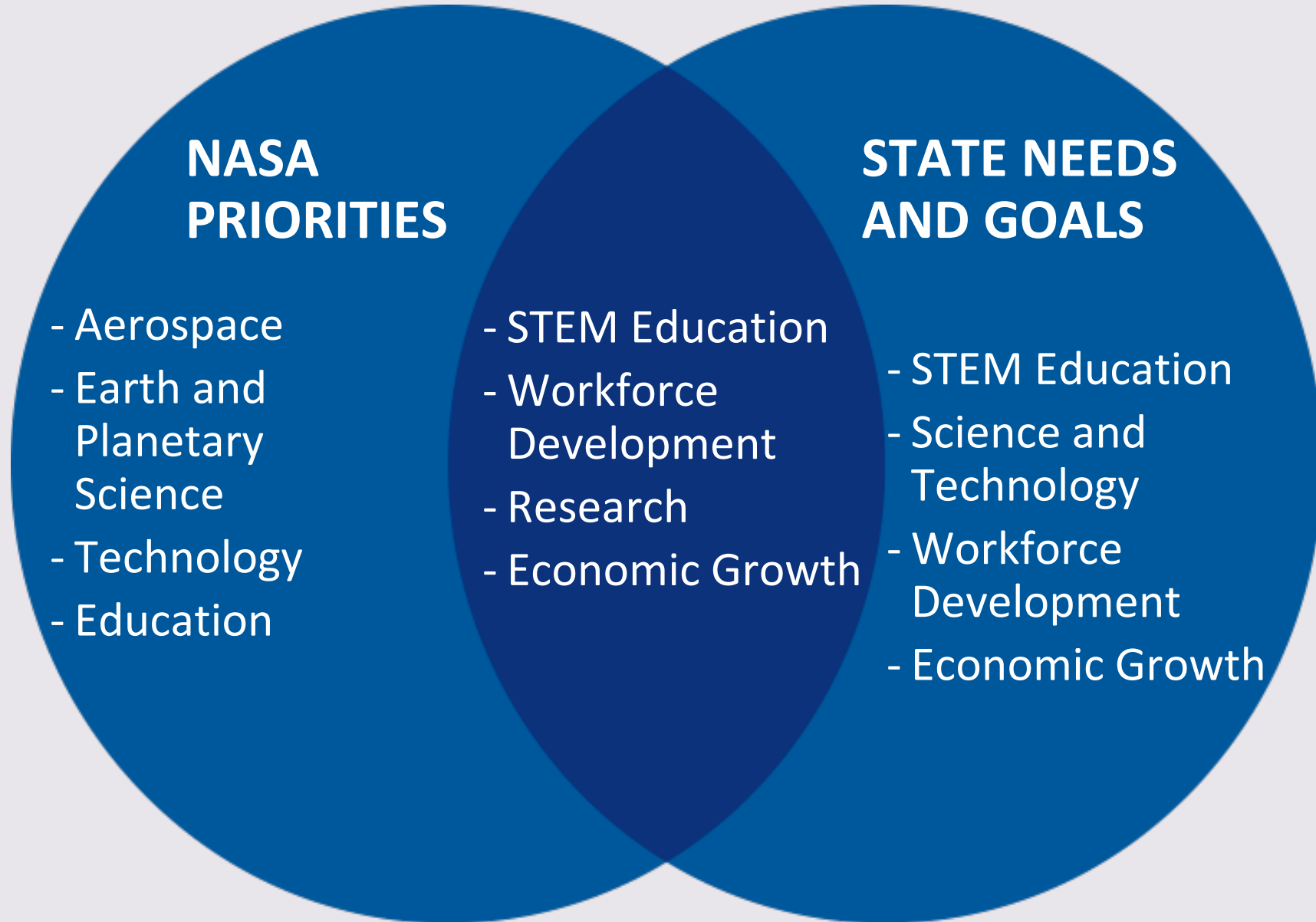# Virginia Space Grant Consortium

VSGC Education Programs
October 21, 2023

Rudo Kashiri

Education Programs Manager

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National NASA Space Grant Program
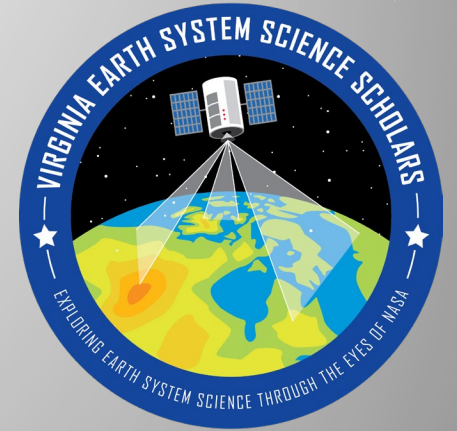
NASA PRIORITIES

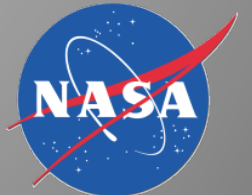- Aerospace
- Earth and Planetary Science
- Technology
- Education

- STEM Education
- Workforce Development
- Research
- Economic Growth

STATE NEEDS AND GOALS

- STEM Education
- Science and Technology
- Workforce Development
- Economic Growth

Virginia Space Grant Consortium

FREE Pre-College Programs

For students currently in grades 8-12

https://vsgc.odu.edu/k-12-education/

Building Leaders for Advancing Science and Technology

8th and 9th grade students

BLAST

Amplify student interest in STEM classes and careers!

Residential campus experience:
ODU, UVA, RU, W&M & VT

3 *jam-packed* summer days of faculty-lead activities and speakers

Application opens in November

Programs for 10 -12 grade students

- **At least 2.7 Grade Point Average**
- **Courses provide interactive online STEM learning experiences**
  - ✓ NASA related content
  - ✓ Science as it relates to the real-world applications
  - ✓ Increase STEM knowledge
- **Selected students attend a FREE 7-day residential Summer Academy at a NASA Center**
  - ✓ Students are immersed in NASA-related research through interaction with:
    - – Scientists
    - – Engineers

Application Closes October 24

![Virginia Space Coast Scholars — Launchpad to Study the Earth, the Atmosphere and Beyond](logo)

Virginia Space Coast Scholars (VSCS)
10th grade

Course focuses on:
NASA, Careers and current missions managed by NASA Wallops Flight Facility (WFF) on Virginia's Eastern Shore

SCAN ME

NASA Wallops Flight Facility Platforms

Students design a mission based WFF mission

- Airborne Science
- Sounding Rockets
- Unmanned Aircraft System (UAS)
- Super Pressure Balloons
- Expendable Launch Vehicles

Virginia Earth Systems Science Scholars Program

Course focuses on:

Understanding the Earth's responses to both natural and man-made changes to the climate and the impacts of these changes on global society

- how the global Earth System is changing,
- how the Earth system will change in the future the causes of these changes.

Summer Academy
Missions are based on the Decadal Surveys

Students design satellite missions to study impacts on Earth's dynamic systems.

Atmosphere: **Clouds/Precipitation**
Biosphere: **Habitat Shifting**
Cryosphere: **Glacial Melt/Sea Ice**
Hydrosphere: **Sea Level Rise**
Lithosphere: **Ground Subsidence**

Virginia Aerospace Science and Technology Scholars (VASTS)
11th and 12th grade

Online Course focuses on human space flight.

11th and 12th grade
Up to 5 free college credits through Virginia Penisnular community college

Summer Academy

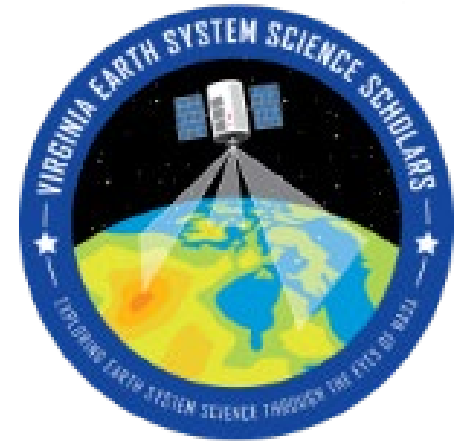## Students design a human mission to Mars

- Tours NASA Langley facilities
- Mentored by NASA engineers, scientists, and technologists
- Briefings and seminars by astronauts, engineers, scientists and other NASA experts

11 and 12th grade Students

Students can earn up to five free dual enrollment college credits through Virginia Peninsula Community College

Master Teachers

- Facilitate online coursework
- Direct interaction with students
- Provide guidance evaluation, feedback, assessment of student work
- Paid as consultants
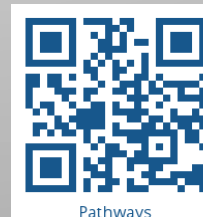- High school Science, Math and CTE
- Summer Academy Master teachers

Pathways Flight Academies

- **Program for High School students**
- **Explore aviation career fields while learning to fly!**
  - Ground School
  - Flight Training
  - FREE intensive residential academy for selected students
  - May culminate in first solo flight!

Pathways

Application opens in January

Plant the Moon Challenge

- A global science experiment and inspirational challenge to grow crops using lunar simulant

- Attracting nontraditional aerospace learners to engage in space exploration

- A hands-on project-based learning experience
- Help engage, inspire, and motivate students to learn through real-world challenge-based programming

A multidisciplinary STEM project where agriculture meets space science and exploration

Commonwealth STEM Industry Internship Program
CSIIP