

## Virginia Space Coast Scholars

November 8, 2021 – March 7, 2022

### Course Description:

Virginia Space Coast Scholars is an online course that introduces flight, space and supporting technologies. This dynamic program designed by the Virginia Space Grant Consortium (VSGC) inspires students who possess technical and/or scientific interests and are motivated to learn about the many different opportunities that NASA offers. Students progress through a series of five modules to learn about NASA's orbital and suborbital missions that are supported by NASA Wallops on Virginia's Eastern Shore. Scholars access the modules from the home page. The modules begin on November 8, 2021. The module activities are submitted and posted through the VSCS online course site located <https://vsgc.spacegrant.org/course/>. A scholar has completed the course only after all course work from Modules have been completed and graded. **Only those students that have successfully completed the online course will be considered for the Summer Academy. Note: Completion of the coursework does not guarantee selection into the Academy. Selections are highly competitive. The number of selections may vary year-to-year depending on space and funding.**

### Course Goals:

- Apply skills learned in VSCS to high school coursework
- Increase the number of students that pipeline into Science, Technology, Engineering, and Mathematics – STEM programs and activities
- Connect students with unique NASA resources
- Provide opportunities for demonstrating creative and innovative ideas
- Improve students' problem-solving skills

### Contact Information:

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### Grading Procedures:

Modules are evaluated and graded by licensed Virginia teachers using the rubrics found at the end of each lesson. Every three to four weeks, one new module will be released to ensure that each scholar truly focuses on the material. The modules are weighted in the following manner:

70% Course Activities in Modules 1-4 30% Final Project (Module 5)

Module 5, the Capstone Project, is a culminating research paper in which the student develops a scientific research mission that integrates a launch platform supported by NASA Wallops Flight Facility. The student must consider the limitations of the launch platform, available technology for data collection, the benefits to society, and other considerations. **Scholars must submit the capstone project from Module 5 to be considered for the Summer Academy. Upon completing all coursework, including the Module 5 capstone project, scholars will be mailed a certificate of completion at the end of the Summer Academy.**

### Potential High School Credit:

School districts will be encouraged to grant a science elective credit towards graduation to scholars in the distance

learning coursework who complete the program. *If you are interested in receiving high school credit, you must notify your school counselor at the start of the online course (Dec) and provide them with a copy of the online syllabus.* The final decision regarding any credit rests with the student's school system. According to VDOE, any school division may decide to offer the VSCS online course as elective credit; each school district would need to follow the school division's protocol to approve a locally awarded credit.

### **Late Work Policy:**

**Students may submit late work for a grade penalty** as indicated below for the assignment. The student will contact the Master Teacher and give the date the student intends to submit the assignment via email.

- Late work is accepted with a grade penalty. Please note- quizzes cannot be made up after the module closes. You must take the quiz even if you have not turned in your other module assignments.
- Course module assignments are due every three to four weeks and must be submitted through the Moodle online course system by 11:55 PM Sunday.
- At 11:56 PM, the assignment "closes" and the system automatically marks the assignments as late. Students must make arrangements with the master teacher as to when the late assignment(s) will be submitted through the course site. Students have a maximum of 30 (thirty) days past the due date to submit late work. If you are not active in the course for over 30 days, you will be removed from the VSCS program unless you have contacted your Master Teacher.

Students may submit work for a grade penalty as indicated below for the assignment. The student will contact the Master Teacher and give the date on which the student intends to submit the assignment.

- Between 1 minute late and 1 week late = 10% points deducted from the assignment
- Between 1 week and 2 weeks, late = 20% points deducted from the assignment
- Between 2 weeks late and 3 weeks, late = 30% points deducted from the assignment
- Between 3 weeks late and 4 weeks, late = 33% points deducted from the assignment
- After 30 days, the system will no longer allow you to submit your assignment, and you will receive no credit for that assignment
- These percentages will be reflected in the assignment rubrics

Extenuating circumstances will be considered individually by the Master Teacher and VSCS Course Coordinator, Joyce Kuberek.

**Under no circumstances will work be accepted that is more than one month late (more than two modules late). If you have not submitted any assignments for two modules.**

**Note:** If you have extenuating circumstances (prolonged illness, death in the family, etc.) that prohibit you from submitting your assignments on time, please contact your Master Teacher and explain the situation. It is up to you to communicate the date on which you will submit the work. *The Master Teacher will not necessarily send you reminders about your late work.* It is to the Master Teachers' discretion whether the reason warrants additional time and the number of points deducted, if any.

### **Scholastic Dishonesty:**

Students plagiarizing or cheating will receive a zero (0%) for the assignment and will automatically be withdrawn from the consideration of attending the proposed Summer Academy.

## About the Modules

The course is mainly asynchronous, meaning you will not meet virtually with your teacher or group members daily. There will be a minimum of two synchronous sessions during the entire course. One meeting will occur at the beginning of the course and another session right before the final technical paper, Module 5. You will find the links to these meetings in the Meetings folder. Your teacher may decide to hold other synchronous meetings if the group has difficulties with a particular assignment.

### Pre-Course Module

In this module, you will complete a course enrollment form and a talent release form. Students will also learn about plagiarism and complete a short quiz on plagiarism. Module 1 will not open until the plagiarism assignment is completed.

### Rubric Review Assignment

For Modules two through four, there will be a rubric review assignment. You will review the technical report specified in the assignment and answer several questions regarding the master teacher feedback. This assignment must be completed before you can open the following technical report.

### Module Quizzes

There will be a reading quiz for each module that covers all sections in the reading assignment of the module. The online module book includes the linked information and the videos. Students will be allowed three attempts. The score will reflect the average of the attempts, so students must read the reading assignments before attempting the Students will learn past, present, and future roles which NASA serves to advance science, engineering, and technology in the Commonwealth and beyond. Students will also learn how to utilize Google Drive to store and submit assignments.

#### Module 1: Exploring the History of NASA

**Essential skills:** Research skills, writing a short review using APA format for body and reference section, algebra one math skills

**Ungraded Assignments:** Module 1 Reading assignment (must read to be successful on Module quizzes), Getting to Know Your Classmates

Graded Assignments	points	Due date
Sounding Rocket Math	18pts	November 18, 2021 by 11:55 PM
NASA Spin-Off Brochure (APA Reference list)	30pts	November 29, 2021 by 11:55 PM
NASA Past, Present & Future (APA format)	28pts	November 18, 2021 by 11:55 PM
Module 1 Reading Assignment Quiz	36pts	November 29, 2021 by 11:55 PM

### Module 2: Discover NASA Careers and Opportunities

In module 2, scholars will discover careers at NASA and research opportunities. Scholars will learn about the roles of scientists, engineers, and technicians and the importance of teamwork in scientific research missions.

**Essential Skills:** Collecting, analyzing, and graphing data, writing a technical paper using APA formatting, organizing graphics for PowerPoint slides using nonfictional research, using and analyzing GIS mapping tools

**Ungraded assignment:** Module 2 Reading assignment

<b>Graded Assignments</b>	<b>points</b>	<b>Due date</b>
Reviewing NASA Past, Present & Future Rubric teacher Feedback	10 pts	December 9, 2021 by 11:55 PM
Hurricane Mapping with GIS	50pts	December 9, 2021 by 11:55 PM
APA Technical Paper: Discover STEM through NASA	75pts	December 27, 2021 by 11:55 PM
Exploring Careers with NASA with LinkedIn (Social Media <i>fake</i> page)	35pts	December 16, 2021 by 11:55 PM
Module 2 Reading Assignment Quiz	36pts	December 27, 2021 by 11:55 PM

**Module 3:**

In Module 3, scholars will study four different suborbital launch platforms supported by Wallops Flight Facility used in atmospheric science studies.

**Essential skills:** analyzing and graphing data, writing a technical paper using APA formatting, Algebra 1 math skills

**Ungraded assignment:** Module 3 Reading assignment

<b>Graded Assignments</b>	<b>points</b>	<b>Due date</b>
Reviewing APA Technical Paper: Discover STEM through NASA Rubric (Teacher Feedback)	10 pts	January 13, 2022 by 11:55 PM
Calculating Spatial Resolution	25pts	January 6, 2022 by 11:55 PM
APA Technical Paper: Designing the Barely Imaginable	100pts	January 17, 2022 by 11:55 PM
Ice Bridge	30pts	January 6, 2022 by 11:55 PM
Module 3 Reading Assignment Quiz	36pts	January 17, 2022 by 11:55 PM

**Module 4:**

In Module 4, scholars will read about the LADEE Case study and research different NASA missions supported by the Wallops Flight Facility used in atmospheric science studies.

**Essential skills:** analyzing and graphing data, writing a technical paper using APA formatting.

**Ungraded assignment: Module 4 Reading assignment**

<b>Graded Assignments</b>	<b>points</b>	<b>Due date</b>
Reviewing APA Technical Paper: Designing the Barely Imaginable Rubric (Teacher Feedback)		January 31, 2022 by 11:55 PM
LADEE Case Study	33 pts	January 27, 2022 by 11:55 PM
APA Paper Introduction to Mission Design	85pts	February 7, 2022 by 11:55 PM
Graphing Activity: LADEE Launch	24pts	January 27, 2022 by 11:55 PM
Module 4 Reading Assignment Quiz	36pts	February 7, 2022 by 11:55 PM

**Module 5:**

Module 5 contains the final culminating assignment. This final assignment will allow students to demonstrate what they have learned and what interests them in the STEM field related to aerospace and NASA missions. This assignment equals

30 percent of the final grade—review the rubric before attempting the assignment to receive a successful score.

**Essential skills:** analyzing and graphing data, research, and writing a technical paper using APA formatting.

**\*\*This technical report is due March 7, 2022**

