



THE GOVERNOR'S SCHOOL
for
SCIENCE AND TECHNOLOGY

Virtual Parent Information Session

Vikki Wismer, Director

- **Director, Governor's School for Science and Technology (GSST)**



Welcome!
Thanks for Your Interest





What's Unique About Governor's School?

- Faculty with advanced STEM degrees
- Courses that are dynamic, hands-on, and college level
- Two year research sequence
- Community of high-achieving peers
- Extracurricular activities: competitions and clubs

Faculty

- All have masters (50%) or Ph.D. (50%) in a math/science discipline
- Several have conducted research at Jefferson Lab, universities or other organizations and/or taught at colleges





Advanced STEM Courses

- Taught at a college level; many eligible for dual enrollment credit
- Curricula consist of foundational science principles updated with content from emerging STEM disciplines
- Enriched by collaborations with College of William and Mary (research grant) and VT (data science undergrad course content)
- All science courses include extensive labs and hands-on projects

Two Year Research Sequence

- Junior year: students master skills required to do STEM research
- Senior year: Students engage in an individual or group project of their choice, guided by a Faculty Advisor and Mentorship Coordinator



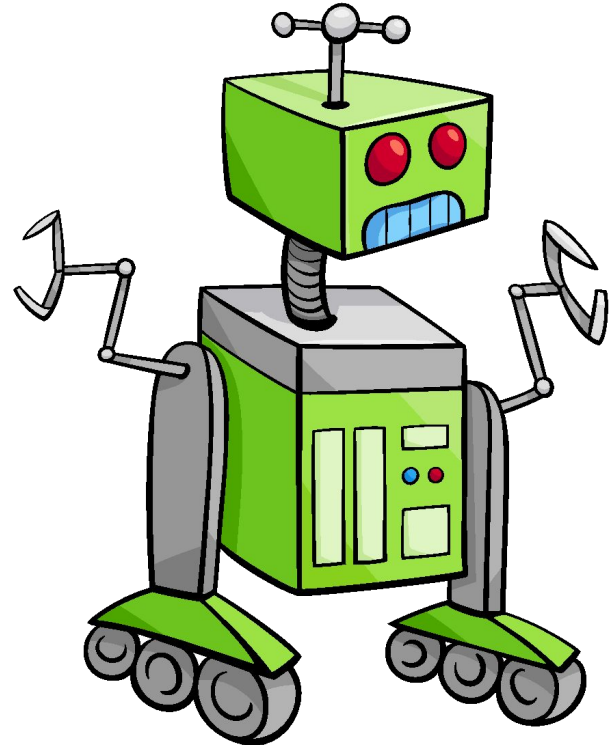
Community of Learners

- 180 juniors and seniors come from twenty-one high schools, seven school divisions
- Students study, collaborate, and socialize with academic peers
- Students engage with faculty who have advanced degrees and have worked in STEM fields



Extracurricular Activities

- **Competitions:** e.g. Great Computer Challenge; Science Bowl; Conrad Innovation Challenge in Aerospace & Aviation; SIMIODE Math Modeling Competition; science fairs
- **STEM career interests:** Girls Who Code, FIRST Robotics, Engineering Club
- **Clubs:** Student Advisory Board, Yearbook



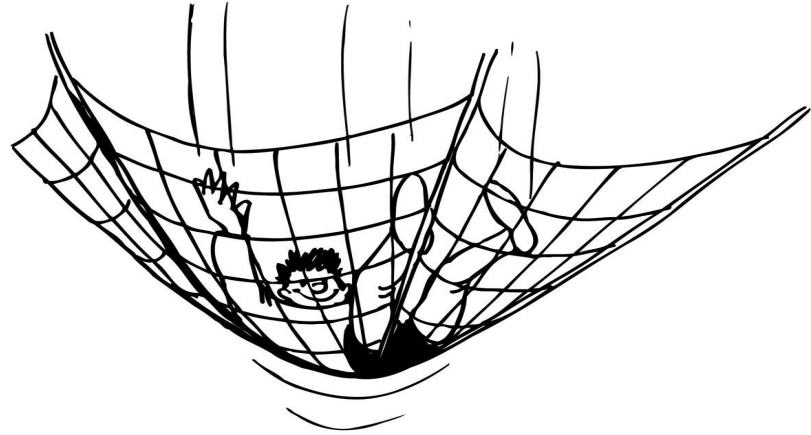
Governor's School: You've Heard It's Challenging

- Students are adjusting to college level course content
- Students are commuting between two high schools
- Time management skills are needed
- It's rigorous, but...



The Governor's School Provides Support

- **ALEKS summer software program**
- **Student Academic Support (SAS) program for struggling students**
- **Faculty advising**
- **Digital Platform - Canvas**



Preparing to Succeed in Math: ALEKS

- **ALEKS Summer Software Program**
 - Students take an online diagnostic test that measures their mastery of math concepts from the math course they've just completed
 - Diagnostic test is used for math course placement – and is used by the software program to generate an adaptive, online program that students use through the summer to address any weaknesses
 - Students prefer ALEKS over summer packets!

Student Academic Support (SAS)

- Students who are identified as having difficulties by teachers, parents, or themselves, are referred to Student Academic Support Program (SAS)
- Teachers, student, parent, and GSST administration work together to institute interventions to bolster and monitor student success



Faculty Assistance/Advising is Built-In

- Time set aside for students to make appointments to meet with teachers for help – or to finish a lab, and/or collaborate with other students on homework or projects



CANVAS: School-Wide Digital Platform

2021/2022 - The Governor's S...

Home

Announcements

Syllabus

Assignments

Modules

Quizzes

Grades

Pages

Grade Sync

People

Discussions 

Files 

Outcomes 

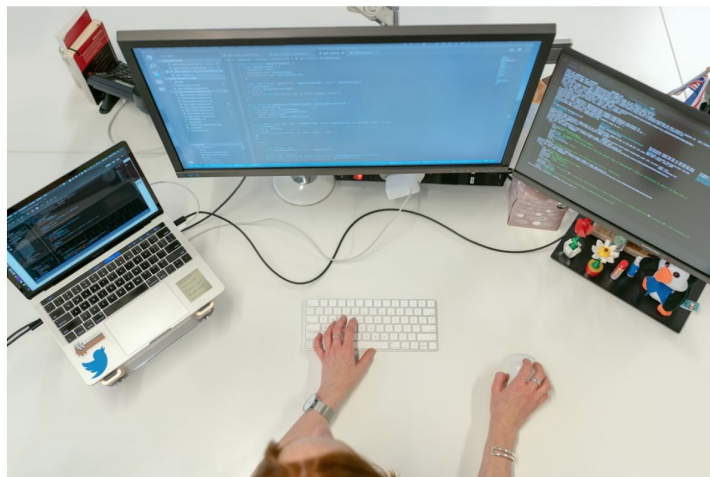
Rubrics 

BigBlueButton 

Collaborations 

Settings

Engineering Design, Innovation, and Entrepreneurship!



Here is the [Syllabus](#) 

Our class meets every Monday, Tuesday, Thursday, and Friday.

Monday's and Thursday's will be for Computational Science, and Tuesday's and Friday's will be for Data Matters.


Zoom Class Meeting Links:


 Choose Home Page

 View Course Stream



 Course Setup Checklist

 New Announcement

 View Course Analytics

 View Course Notifications

To Do

 [Grade \[CW\] Classwork 26](#) 
100 points • Jan 7 at 11:59pm

Coming Up  [View Calendar](#)

 [\[CW\] Classwork 26](#)
100 points • Jan 7 at 11:59pm

 [Chapter 8 Quiz](#)
40 points • Jan 11 at 11:59pm

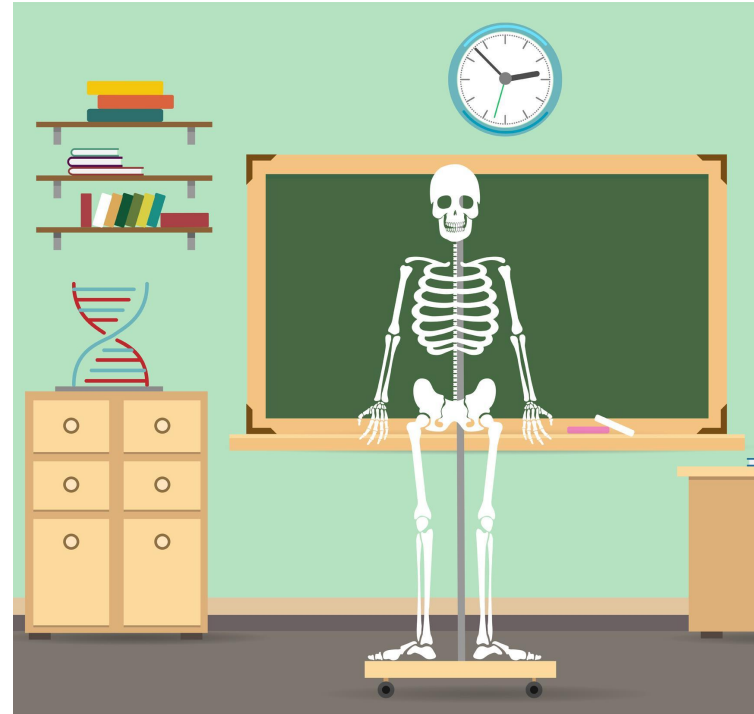
 [Kmeans And MDS](#)
110 points • Jan 11 at 11:59pm



Applying to Governor's School

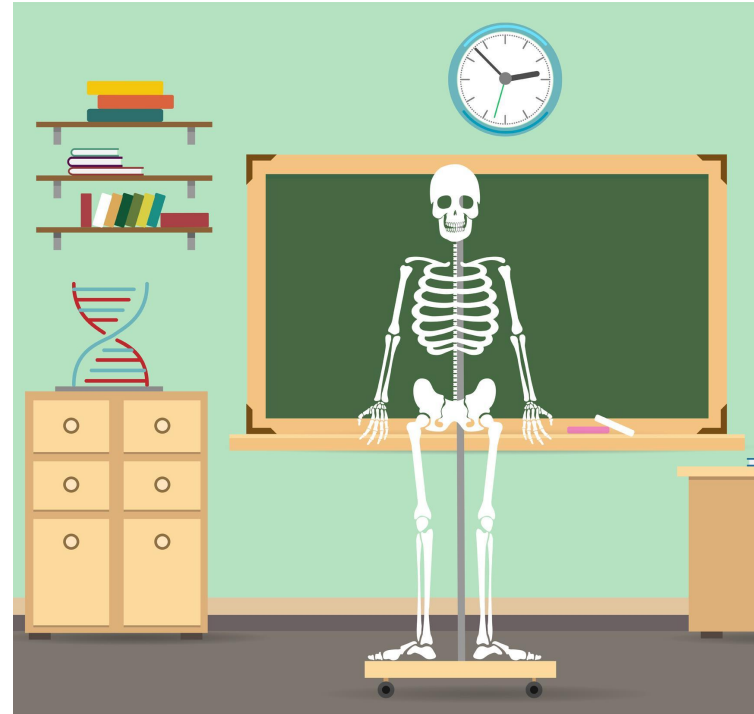
Admission Process: Factors Considered

- Overall GPA
- PSAT score, *if submitted*. SAT or ACT can be submitted instead.
- Performance in math and science courses:
 - Rigor of math/science courses
 - Grades in math/science courses
 - Teacher recommendations from current math & science teacher
 - SOL scores



Admission Process: Prerequisites

- **Math minimum:**
 - Algebra II/Trig
 - PreCalculus/Math Analysis for Engineering strand
- **Science**
 - Biology
 - Chemistry



We **Don't** Require or Consider:

- Essays
- Previous research/science fair projects
- List of Extracurricular Activities





Application Process: First Step is Selecting an Academic Strand

Students apply to one Academic Strand only

Each student competes with all other students in his/her district who are applying to that Academic Strand

Academic Strand options:

- **Biological Sciences: Physics, Biology**
- **Computational Sciences: Algebra-based Physics, Programming**
- **Engineering: Calculus-based Physics**

Online Application: Logistics

- Watch the instructional video – located on The Governor’s School website under the Prospective Student tab
- <https://nhrec.org/gsst/home/how-to-apply/>
- Click the Apply Now Button to be taken to the online application

How to Apply



Apply Now



Application Components

- **Students complete a simple online application, providing background information about themselves**
- **Students also provide name and contact information for school counselor plus current math and science teachers**
- **School counselor and teachers receive online requests to complete their application components:**
 - **Counselor: courses, grades**
 - **Teachers: recommendation form**

Application Timeline

- **December through February 14:** Complete online application
- **February 16:** Recommendations from math and science teachers due
- **Early April:** all applicants will receive a letter notifying them of their admissions decision

Introduction



Online Application

Welcome to the New Horizons Regional Education Centers' Application. Please follow these steps to continue.

1. **Select "Next" on this page, and enter the information requested by the online forms.**
Note: Required fields are marked as "Required", and New Horizons Regional Education Centers will receive the data exactly as it is entered. Please be careful of spelling, capitalization, and punctuation.
2. **Select "Submit!"**
On the submission confirmation page you will have the opportunity to print out a copy of your registration to keep for your records. Note: Once the form is electronically submitted, you will receive an e-mail confirmation.
3. After your application has been submitted, your guidance counselor will enter additional information regarding grades and attendance.
4. Governor's School for Science and Technology and GSST Pre-Admissions Series (PAS) Applicants Only - On the submission page you will be given a link to the SchoolRecs website where you will submit requests for teacher recommendation(s).

Previous

Next

Get Info about GSST & Application Process: Prospective Student Pipeline (PSP) Newsletter

- Everyone is welcome!
- No age or academic criteria
- Sign up on the Governor's School website
 - Go to Prospective Student tab, click on Information for Prospective Students, complete online form





Biological Sciences

- **Appropriate for:**
 - Students considering careers in the health sciences, life sciences, biology, chemistry or physics research or engineering
- **Unique opportunities:**
 - Extensive college-level lab work, including restriction and comparative physiology of aquatic, amphibian, and terrestrial mammals through dissection labs.



Break down the terms..

- **Enzyme Analysis** involves studying the properties and activities of enzymes, often using techniques like gel electrophoresis.
- **PCR (Polymerase Chain Reaction)** is a method to amplify and replicate specific DNA sequences, enabling researchers to produce multiple copies of a particular DNA fragment.
- **CRISPR/Cas** is a powerful gene-editing tool that allows precise modification of DNA sequences within living organisms, with broad applications in genetic research and biotechnology.



College-level laboratory work and advanced scientific research

Yes, the laboratory work described, including enzyme analysis, PCR (Polymerase Chain Reaction), and CRISPR/Cas, is typically associated with college-level and advanced scientific research. These techniques are sophisticated and require a solid understanding of molecular biology, biochemistry, and genetics.

College-level lab work often involves hands-on experience with advanced equipment, molecular techniques, and experimental design. Students in programs such as molecular biology, biochemistry, genetics, or related fields may encounter these techniques as part of their coursework, research projects, or laboratory sessions.

Working with techniques like PCR and CRISPR/Cas usually goes beyond the introductory levels of laboratory work and is commonly found in upper-level undergraduate courses, as well as in graduate-level research. These skills are essential for individuals pursuing careers in fields such as biotechnology, genetic research, medicine, and molecular biology.

The complexity and precision required for these techniques make them suitable for individuals who have a solid foundation in the underlying scientific principles and techniques, which is typically achieved at the college level.

Calculus-Based Physics: Engineering

Appropriate for:

- Students considering engineering and other STEM careers
- **Unique opportunities:**
 - EDIE (Engineering Design, innovation and Entrepreneurship) Lab, students learn digital electronic systems, CAD (Computer Aided Design) and the engineering design process.
 - This knowledge is applied to keystone engineering design projects, such as the AirDuino, a collaboration with W&M, students constructing and programming microcontroller-based air pollution detector device, and collect data at various locations in the Hampton Roads region.



EDIE Lab

Unlocking Innovation, Nurturing Engineers of Tomorrow.*

In addition to the exciting opportunities for future engineers, the skills cultivated in the EDIE Lab extend far beyond the realm of engineering alone.

By participating in cutting-edge projects and gaining hands-on experience, students develop a versatile skill set applicable to a range of STEM careers.

Whether aspiring to be an engineer, data scientist, environmental analyst, or tech entrepreneur, the EDIE Lab provides a foundation for success in diverse fields. Join us on the journey of innovation, where the possibilities are limitless, and the skills acquired pave the way for a dynamic and impactful career in the ever-evolving landscape of STEM disciplines.

Computational Sciences: Physics/Programming

- **Appropriate for:**
 - Students interested in computer science, software engineering, data science, and related fields
- **Unique opportunities:**
 - The first year course teaches fundamental principles of physics and computational programming in Python. In the second year, students study C++ programming along with foundational concepts in data science, provided through a landmark pilot collaboration between GSST and the Computational Modeling and Data Analytics program at Virginia Tech.



GSST Program Overview Video

[GSST Program Overview Video](#)

Further Questions?

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