The Governor’s School @ Innovation Park
A STEM Initiative
(Science, Technology, Engineering, Mathematics)

City of Manassas Public Schools
City of Manassas Park Public Schools
Prince William County Public Schools

in Collaboration with George Mason University
General Information

- 3 participating school divisions: Manassas City Public Schools, Manassas Park City Public Schools and Prince William County Public Schools

- 118 slots:
  - 88 PWCS
  - 20 MCPS
  - 10 MPCS
The Learning Environment at GS@IP

- Advanced level courses in which students must synthesize information and apply knowledge
- Projects based on student interests and talents
- Positive learning environment
- Team-based learning
- Flipped approach to learning
- Prepares students for college and the 21st Century workforce
Weekly and Daily Schedule

- **Monday, Wednesday, Friday**
  - Science and Math

- **Tuesday and Thursday**
  - Principles of Technology and Engineering (PTE) Classes
  - Research or Engineering Projects

- **1st Period** – 7:30 to 9:20 am
- **2nd Period** – 9:30 to 11:15 am
<table>
<thead>
<tr>
<th>Year</th>
<th>Mathematics</th>
<th>Science</th>
<th>Engineering/Technology</th>
<th>Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Junior Year</td>
<td>Precalculus/Calculus I or Calculus I/II</td>
<td>Biology I or Chemistry I or Physics I</td>
<td>Principles of Technology and Engineering I (select from multiple course offerings)</td>
<td>Intro to Science Research or Engineering Project Design and Methodology</td>
</tr>
<tr>
<td>Senior Year</td>
<td>Calculus I/II or Calculus III/Linear Algebra</td>
<td>Biology II or Chemistry II or Physics II</td>
<td>Principles of Technology and Engineering II (select from multiple course offerings)</td>
<td>Hands-on research or engineering project in area of interest</td>
</tr>
</tbody>
</table>

All courses are weighted as AP/Dual Enrollment or Honors
# Math Courses Offerings and Options for College Credit

<table>
<thead>
<tr>
<th>Governor’s School Course Names</th>
<th>George Mason Dual Enrollment Option</th>
<th>Advanced Placement Examination Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Calculus</td>
<td>Math 105</td>
<td></td>
</tr>
<tr>
<td>Calculus I (Part A and B)</td>
<td>Math 124 – Math 125</td>
<td>Calculus AB</td>
</tr>
<tr>
<td>Calculus I-II Honors</td>
<td>Math 115 – Math 116</td>
<td>Calculus BC</td>
</tr>
<tr>
<td>Calculus III/Linear Algebra</td>
<td>Math 203 - Math 215</td>
<td></td>
</tr>
</tbody>
</table>

School Divisions pay for **one** 3 or 4 credit course for dual enrollment in the junior year and **two** 3 or 4 credit courses in the senior year. **TWO of the THREE courses paid for must be mathematics.**
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<tbody>
<tr>
<td>Advanced Biological Studies I</td>
<td>Biology 103 – 104 + labs [General Biology]</td>
<td>Advanced Placement Biology</td>
</tr>
<tr>
<td>Advanced Biological Studies II</td>
<td>Biology 124 + lab and 246 [Anatomy and Physiology Microbiology]</td>
<td></td>
</tr>
<tr>
<td>Advanced Chemistry I</td>
<td>Chemistry 211-212 + labs [General Chemistry]</td>
<td>Advanced Placement Chemistry</td>
</tr>
<tr>
<td>Advanced Chemistry II</td>
<td>Chemistry 104 and 155 + labs [Introduction to Organic Chemistry and Environmental Chemistry]</td>
<td></td>
</tr>
<tr>
<td>Advanced Physics I</td>
<td>Physics 243-245 + labs [College Physics]</td>
<td>Advanced Placement Physics B (both exams)</td>
</tr>
<tr>
<td>Advanced Physics II</td>
<td>Physics 160 – 260 + labs [University Physics]</td>
<td>Advanced Placement Physics C (both exams)</td>
</tr>
</tbody>
</table>
# PTE Course Offerings and Options for College Credit

<table>
<thead>
<tr>
<th>Governor’s School Course Names</th>
<th>George Mason Dual Enrollment Option</th>
<th>Advanced Placement Examination Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to Engineering</td>
<td>ENGR 107</td>
<td></td>
</tr>
<tr>
<td>Geomatics and Engineering Graphics</td>
<td>CEIE 203</td>
<td></td>
</tr>
<tr>
<td>Introduction to Bioengineering</td>
<td>BENG 101 (online; DE only)</td>
<td></td>
</tr>
<tr>
<td>Programming I and II (JAVA)</td>
<td>CS 112 CS 211</td>
<td>Computer Science</td>
</tr>
<tr>
<td>Introduction to Research/Project Design and Methodology I / II</td>
<td>COS 120</td>
<td></td>
</tr>
<tr>
<td>Innovations</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Courses fulfill the CTE elective requirement for an advanced studies diploma
Mentorship Research Program

- Students spend time developing and engaging in authentic research projects during senior year.
- Projects may be developed and research conducted at the George Mason Campus or with a business or industry mentor off campus.
Applications are submitted to the school division in February during the tenth grade year of studies
- MCPS – 2/2/15
- MPMS – 2/3/15
- PWCS – 2/6/15

Math: Students should complete (at minimum) Algebra II/Trig before applying

Science: Students should complete 1 year of both Biology and Chemistry before applying; students are also very strongly encouraged to take a Physics course before enrolling
The application process and student selection expectations were developed with representation from each school division.

The number of students from each school division is pre-established.

The application review for the selection of students is conducted by each school division.
Highlights of the Application

- Complete Career Highlights relating to science, technology, engineering and/or mathematics
  - Activities and Organizations
  - Honors and Recognitions

- Complete Student Portfolio
  - Research Project
    - Submit project from previous Science or Engineering Fairs
  - Study Experience
  - Portfolio Reflection
Highlights of the Application

- Complete Academic Essay
  - 2 Essay Prompts (application and controlled setting)
  - Recommendations – Science and Mathematics Teacher + Other Adult
- Participate in Interview (as applicable, depending on school division requirements)
- Score Options will be completed by Selection Committee
  - Unweighted GPA in STEM Courses
  - Aptitude
  - Achievement
I. Career Highlights: Activities, Research, and Honors:

Activity/Program

Honor/Recognition

TOTAL I: (____ Activities) + (____ Honors) x 2 = (24 max)

II. Essay Evaluation: (Parts 1 and 2)

Part 1 - Reader One: __6___5___4___3___2___1 Reader Two: __6___5___4___3___2___1
Part 2 - Reader One: __6___5___4___3___2___1 Reader Two: __6___5___4___3___2___1

TOTAL II: (____ Average of Reader One + Reader Two) + (____ Average of Reader One + Reader) = (12 max)

III. Teacher Recommendations:

Rating Scale (max 24 points for each teacher):

(____ Math Teacher + ____ Science Teacher + ____ Other Teacher/Adult) divided by 3 = ____ (24 max) [A]

TOTAL III: (____ Rating Scale) = (24 max)

IV. Applicant Aptitude or Achievement Test Score, and Unweighted GPA in STEM Coursework only

Mark the correct response in each category. Include test information below. Use scale (9 - 4) to assign points to each category.

Test __________________________ Date Administered ______________________

<table>
<thead>
<tr>
<th>Measured Ability OR Measured Achievement and Unweighted M/S/T GPA</th>
<th>4.0-3.92</th>
<th>3.83-3.68</th>
<th>3.51-3.44</th>
<th>&lt;3.43</th>
</tr>
</thead>
<tbody>
<tr>
<td>(99-98%)</td>
<td>[ ] 10</td>
<td>[ ] 8</td>
<td>[ ] 6</td>
<td>[ ] 5</td>
</tr>
<tr>
<td>(97-95%)</td>
<td>[ ] 9</td>
<td>[ ] 7</td>
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<tr>
<td>(94-90%)</td>
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<tr>
<td>(84-80%)</td>
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<tr>
<td>(&lt;80%)</td>
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</tbody>
</table>

TOTAL IV: (____ Ability/Achievement Score) + (____ GPA) = (20 max)

V. Portfolio Assessment including Reflection

Indicate the consensus score given to portfolio by the committee.

<table>
<thead>
<tr>
<th>Portfolio Assessment</th>
</tr>
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<tbody>
<tr>
<td>Superior</td>
</tr>
<tr>
<td>Excellent</td>
</tr>
<tr>
<td>Above Average</td>
</tr>
<tr>
<td>Average</td>
</tr>
</tbody>
</table>

(Score V x 2) =

GRAND TOTAL: (Add Total of Parts I + II + III + IV + V) = (100 max)
Upcoming Events

- Annual ASTEM event – Saturday, January 31 from 10 am to noon at GMU PW Campus in Bull Run Hall (pre-registration required and available in late November)
Points of Contact

Governor’s School @ Innovation Park
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Base School Guidance Counselor