GRADUATION REQUIREMENTS

• Standard Diploma
  • 3 lab science courses in 2 different disciplines (Earth Science, Biology/Environmental Science, Chemistry, Physics)
  • 1 passed SOL test (Earth Science, Biology, or Chemistry)

• Advanced Diploma
  • 4 lab science courses in 3 different disciplines (Earth Science, Biology/Environmental Science Chemistry, Physics)
  • 2+ passed SOL tests (Earth Science, Biology, or Chemistry)
<table>
<thead>
<tr>
<th>Course</th>
<th>Grade</th>
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<tbody>
<tr>
<td>Academic Earth Science</td>
<td>grade 9</td>
</tr>
<tr>
<td>Research Earth Science</td>
<td>grade 9</td>
</tr>
<tr>
<td>Academic Biology</td>
<td>grade 10</td>
</tr>
<tr>
<td>Research Biology</td>
<td>grades 9-10</td>
</tr>
<tr>
<td>Academic Chemistry</td>
<td>grades 10-12</td>
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<tr>
<td>Research Chemistry</td>
<td>grades 10-12</td>
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<tr>
<td>Environmental Science</td>
<td>grades 11-12</td>
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<tr>
<td>AP Environmental Science</td>
<td>grades 11-12</td>
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<tr>
<td>Conceptual Physics</td>
<td>grades 11-12</td>
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<tr>
<td>Academic Physics</td>
<td>grades 11-12</td>
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<tr>
<td>AP Biology DE</td>
<td>grades 10-12</td>
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<tr>
<td>AP Chemistry DE</td>
<td>grades 11-12</td>
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<td>AP Physics C: Mechanics</td>
<td>grade 12</td>
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<tr>
<td>Geospatial Science DE</td>
<td>grades 11-12</td>
</tr>
<tr>
<td>Independent Science Research</td>
<td>grades 11-12</td>
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</table>
YOU SHOULD TAKE ACADEMIC EARTH SCIENCE IF…

• You do not wish to take an honors-level science course.
• You do not have an interest in pursuing a career in science.
• You will be enrolled in Algebra 1 as a freshman.
YOU SHOULD TAKE RESEARCH EARTH SCIENCE IF...

• You are interested in data-driven research questions.
• You will be enrolled in Geometry or higher as a freshman.
• You have had grades of A/B in science classes.
• You have had grades of A/B in math classes.
YOU SHOULD TAKE ACADEMIC BIOLOGY IF …

• You do not wish to take an honors-level science course.
• You do not have an interest in pursuing a career in life sciences.
YOU SHOULD TAKE RESEARCH BIOLOGY IF…

- As a 9th grader:
  - You will be enrolled in Algebra 2 or Algebra 2/Trig as a freshman.
  - You have a basic understanding of descriptive and inferential statistics.
  - You have had grades of A in science and math.
  - You have a strong desire to do research reports and analysis.
  - You plan to complete a summer assignment.

- As a 10th grader:
  - You have a strong interest in science.
  - You enjoyed completing the research project in Earth Science.
  - You plan to complete a summer assignment if you are enrolled in Academic Earth Science this year.
YOU SHOULD TAKE ACADEMIC CHEMISTRY IF...

- You will be enrolled in Algebra 2 or Algebra 2/Trig or higher the year you are taking chemistry. (This course is math-intensive.)
- You passed the SOL test in Algebra 1.
- You do not want to complete a research project.
YOU SHOULD TAKE RESEARCH CHEMISTRY IF…

• You will be enrolled in Algebra 2 or Algebra 2/Trig or higher the year you are taking chemistry. (This course is math-intensive.)

• You have a strong interest in science research and have taken Research Earth Science or Biology.

• This course is a rigorous, fast-paced course.
YOU SHOULD TAKE ENVIRONMENTAL SCIENCE IF...

- You have passed 2 science SOL tests (usually Earth Science and Biology).
- You want to have a positive impact on the environment and like to go outside!
- You are creative and can be successful in a project-based class working independently.
YOU SHOULD TAKE AP ENVIRONMENTAL SCIENCE (APES) IF…

- You have passed Earth Science and Biology and the SOL tests.
- You passed Algebra 2 and the SOL.
- This is the equivalent of a one-semester introductory college course in environmental science.
YOU SHOULD TAKE CONCEPTUAL PHYSICS IF…

- You have passed the Algebra 1 SOL and class.
- You are not enrolled in advanced math courses.
YOU SHOULD TAKE ACADEMIC PHYSICS IF…

• You have passed both Chemistry and Algebra 2 with a grade of B or higher in both. (This course is very math intensive and lab work involves graphical analysis.)

• You plan on majoring in a science or engineering field in college.
YOU SHOULD TAKE AP BIOLOGY DUAL ENROLLMENT IF...

- You have taken Chemistry or are taking Chemistry along with this course.
- You are prepared to commit to a rigorous, college-level course.
- You passed Research Biology with a B or higher or passed Academic Biology with recommendation from your biology teacher.
- You want to earn 8 college credits from Richard Bland College.
YOU SHOULD TAKE AP CHEMISTRY DUAL ENROLLMENT IF…

- You passed Research Chemistry with a B or higher.
- You have strong mathematical skills and have passed Algebra 2.
- You are prepared to commit to a rigorous, college-level course and willing to put in 2 hours work outside of class for every class period.
- You want to earn 8 college credits from NOVA.
YOU SHOULD TAKE AP PHYSICS C: MECHANICS IF…

• You passed Academic Physics with a B or higher.
• You have taken AP Calculus AB or BC or will be enrolled in it the year you take AP Physics.
• You are prepared to commit to a rigorous, college-level course.
• You plan to take the College Board’s AP test in May.
YOU SHOULD TAKE GEOSPATIAL SCIENCE DUAL ENROLLMENT IF…

• You are interested in learning how to present spatial or geographic data.
• You are prepared to commit to a rigorous, college-level course.
• You want to complete an in-depth research project.
• You want to earn 6 college credits from James Madison University.
• You may also take Geospatial Science 2 DE to earn 6 more credits senior year if you take this course junior year.
• NOTE: This course does not count as a lab science
YOU SHOULD TAKE INDEPENDENT SCIENCE RESEARCH DUAL ENROLLMENT IF…

• You are ready to commit to participating in the LCPS Regional Science & Engineering Fair.
• You have completed 2 lab science courses in different disciplines.
• You want to complete an in-depth research project.
• You are ready to commit to a rigorous, college-level course.
• You want to earn 3 college credits from George Mason University.