



Profile Sheet for Transcripts Class of 2017

Mountain Vista Governor's School is a regional program for academically talented and highly motivated 11th and 12th grade students from the school divisions of Clarke County, Culpeper County, Fauquier County, Frederick County, Rappahannock County, Warren County and Winchester City. Tenth graders were included in the fall of 2016. Students are selected to attend MVGS through a rigorous application/screening process. Less than 2% of the senior class is selected to participate in the Mountain Vista Governor's School. Last year Mountain Vista Governor's School had 69 graduates. Of these, 100% are attending a college or university.

Mission Statement: The mission of the Mountain Vista Governor's School is to present a research-based, technology-enhanced, integrated program in mathematics, science, and the humanities. The program will challenge students to reach their full potential as independent thinkers capable of assuming leadership roles in a constantly changing global society.

Curriculum Overview: The interdisciplinary curriculum design of Mountain Vista Governor's School challenges students to construct a highly integrated understanding of mathematics and designated sciences. The development of technology and research skills supports students in solving authentic problems in a scholarly and professional manner. The humanities component requires students to analyze the relationship between the arts and sciences and construct a personal philosophical basis for ethical leadership in applying scientific knowledge to challenging real-world issues. Students are graded on a ten point scale. The school is housed at two sites of Lord Fairfax Community College.

Mountain Vista Contact Information

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Lord Fairfax Community College

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Mountain Vista Governor's School Course Descriptions with Coding Number—Class of 2017

*Students completing these courses may earn dual enrollment through Lord Fairfax Community College.

MVGS Physics I: Mechanics * 451019 This calculus based, first-year course designed to be integrated with MVGS Calculus. Major units of study include Kinematics, Newton's Laws of Motion, Work, Energy & Power, Linear Momentum, Circular Motion & Rotation, Oscillation, and Gravitation; optional units include Thermodynamics and Fluid Mechanics. Students will be prepared to take the AP Physics C (Mechanics) examination.

MVGS Physics II: Electricity and Magnetism* 452029 Physics II is a calculus based, second-year physics course. Major units of study include Electrostatics, Electric Potential & Dielectrics, Electric Circuits, Magnetic Field, and Electromagnetism; optional units include Waves & Optics and Modern Physics. Upon successful completion of the course, students will be eligible to take the AP Physics C (Electricity & Magnetism) examination.

MVGS Biology I: Collegiate Biology* 432019 Biology I is the equivalent of a two-semester college introductory biology course for biology majors. The curriculum is laboratory based and includes extensive integration of laboratory technology. Major units of study include Cell Processes, Ecology, Evolution and Genetics and Information Transfer. Upon completion of the course, students will be eligible to take the Advanced Placement Biology examination.

MVGS Biology II: Advanced Topics in Biology* 432029 Biology II is a second year college biology course which ties together biological principles with social and ethical implications. Students will explore advanced topics in Genetics and Microbiology at varying levels of complexity.

1st Year MVGS Calculus or MVGS Calculus I* 318719 (317519) This is a first year, rigorous course in calculus with analytic geometry. Topics include concepts and applications of differential and integral calculus and an introduction of elementary differential equations. Upon successful completion, students will be eligible to take the AP Calculus AB examination.

MVGS Calculus II with Topics in Multi-Variable* 318729 (317529) The second year course is a continuation of calculus topics from the first year course and an introduction to multivariable calculus. Topics include sequences and series, differential equations, three-dimensional analytical geometry, vector analysis, partial derivatives, optimization, double and triple integrals. Upon successful completion, students will be eligible to take the AP Calculus BC examination.

MVGS Statistics* 329009 (319109) This course is a study of descriptive and analytical (non-calculus) statistics. Students will learn and apply four broad conceptual themes, which include exploring data, sampling and experimentation, anticipating patterns in advance, and statistical inference. Upon successful completion, students will be eligible to take the AP Statistics examination.

MVGS Humanities I: The Power of Thought / English 11* 115009 Beginning with philosophical systems of thought, this humanities course will engage students in an exploration of the philosophical and historical foundations of science against the broader background of Western thought and classical literature. Upon successful completion of the course, students will be eligible to take the AP English Language and Composition Exam. This course meets the requirement for English 11, including Virginia Standards of Learning requirements.

MVGS Humanities 12 / Government * 244009 (or 231509 for Humanities credit) With an emphasis on American Government, students will engage in the study of rhetoric, oratory, political philosophy and ethics and their relationship to current problems and controversies. Upon successful completion of the course, students will be eligible to take the AP US Government Exam. This course meets the requirement for US Government.

MVGS Research I: Introduction to the Fundamentals of the Research Process* 011519 The students' review of literature, analysis of arguments, and evaluation of experiment designs will enable them to explore basic research components; understand concepts such as validity, reliability, and integrity of research; and develop the skills to design, evaluate using statistics, and assess their own and others' academic and scientific research. Extended project integration with math, physics, and humanities will enable students to engage in meaningful background research, link hypothesis development with experiment and study design, and develop quality methods of data collection.

MVGS Psychology/Research II *290809 Students are introduced to the systematic study of the behavior and mental processes of human beings and other animals. They will describe and compare different theoretical approaches to explaining behavior and distinguish between the different domains of psychology. The course will prepare students for the Advanced Placement Psychology Exam. The MVGS Independent Research Project is included in the psychology elective. Students will apply principles of effective research by engaging in academic and scientific research through quantitative studies utilizing laboratory experiments, field studies, interviews, and/or surveys. Students will develop oral, written, and technological skills through the presentation and publication of their research.

MVGS Computer Science I/ Research II * 318609 Computer Science introduces students to the fundamental topics of computing, including problem solving, designing strategies and methods, creating data structures, designing algorithms, analyzing possible solutions, and exploring ethical and social implications of computing. Upon successful completion, students will earn dual enrollment credits in computer science and be eligible to take the Computer Science A Advanced Placement examination. The MVGS Independent Research Project is included in the CS elective. Students will apply principles of effective research by engaging in academic and scientific research through quantitative studies utilizing laboratory experiments, field studies, interviews, and/or surveys. Students will develop oral, written, and technological skills through the presentation and publication of their research.