WE WOULD LIKE OUR ARGUMENTS NOT ONLY TO TELL US THAT SOMETHING IS TRUE, BUT TO HELP US SEE WHY IT IS TRUE. THIS IS THE NORMAL WAY WITH MATHEMATICS. MATHEMATICS THEREFORE NOT ONLY FORMS OUR POWERS OF REASON, BUT DISPOSES US TO BEAUTY AND ORDER EVERYWHERE WE LOOK.

—J. Scott Olsson, Ph.D.
Associate Professor of Mathematics and Natural Sciences

KNOWLEDGE OF NATURE

There are three different levels of scientific inquiry: that of *natural history*, in which particular data are gathered and provisionally organized; that of *natural science*, in which hypotheses and theoretical constructs are fashioned in the attempt to correlate these data; and that of *natural philosophy*, in which the data are subsumed by truly causal explanations of universal validity. The direct experience of the natural world through natural history greatly augments our sense of wonder, so essential for the intellectual life. Natural science instills in the mind a sense of the order of the universe. And natural philosophy ultimately leads the mind to the recognition of the First Principle: "The heavens declare the glory of God" (Ps 19:1). While each level has its own methodology, their unification is an important goal of liberal education.

> " NOTHING DISTINGUISHES WYOMING CATHOLIC FROM OTHER CATHOLIC LIBERAL-ARTS COLLEGES MORE THAN ITS COMMITMENT TO AN EDUCATION GROUNDED IN THE PRIMORDIAL EXPERIENCE OF NATURE. WE BASE OUR INTEGRATED SCIENCE AND MATHEMATICS CURRICULUM ON AN AWARENESS OF THE NATURAL WORLD AS MAN'S HOME, HIS CHIEF FORMATIVE INFLUENCE, AND HIS VERY ORIGIN UNDER PROVIDENCE. "

—Stanley Grove, Ph.D.
Assistant Professor of Philosophy

Wyoming Catholic College

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MATH & SCIENCE *at*

Wyoming Catholic College

Science introduces students to field observation of flora and fauna, the night sky, and the geology of Wyoming, before moving on to explore mathematical methodology and the philosophical underpinnings of this methodology. The sequence concludes with two capstone semesters which demand the integration of science, philosophy, and theology. In the first, we study Einstein's special theory of relativity in the context of the entirety of creation, the cosmos, its characteristics and origin. In the second, we study the origin of man, the pinnacle of creation, and his relation to material creation as we study the theory of evolution.

MAJOR WORKS

The following is a selection of texts read in the Math and Science curriculum at Wyoming Catholic College:

- Leopold, *A Sand County Almanac*
- Euclid, *Elements*
- Archimedes, *The Quadrature of the Parabola*
- Apollonius, *Conics*
- Feynman, *Six Not-So-Easy Pieces* and *The Character of Physical Law*
- Courant, *What is Mathematics?*
- Darwin, *On the Origin of Species*
- Newton, *The Mathematical Principles of Natural Philosophy*
- Galileo, *Two New Sciences*
- Einstein, *Relativity: The Special and General Theory*

THIS MATH AND SCIENCE CURRICULUM HELPS YOU TO UNDERSTAND HOW STATISTICAL STUDIES WORK. THUS YOU CAN DISTINGUISH BETWEEN REAL AND PSEUDO-SCIENCE, AVOIDING THE EXTREMES OF EITHER BELIEVING EVERY POP-SCIENCE STUDY OR WRITING OFF ALL SCIENCE AS INCOMPATIBLE WITH FAITH.

—Inshal Chenet, '17

REALITY AND REASONING

Mathematics helps to give us insight into the natures of things. Even at its most abstract, it offers knowledge of the quantitative aspects of the real physical world. Its highly logical structure and freedom from the imprecision of material being make it ideal for elementary training in reasoning, where the beauty of mathematics both inspires wonder and makes evident the human mind's thirst for understanding. Mathematical knowledge is not only an instrument of scientific inquiry and an indirect means of seeking after knowledge of God; it is an object of contemplation in its own right. "Thou hast ordered all things in measure, and number, and weight" (Wis 11:21).

The Mathematics curriculum begins with Euclid's *Elements*, the foundational text of mathematics in Western civilization, and the great ancient works on conic sections by Archimedes and Apollonius. Next, we explore many of the most beautiful and surprising developments in modern mathematics, ranging from our understanding of mathematical infinities to projective and non-Euclidean geometries. These experiences amply furnish new and exciting philosophical reflection: What are mathematical beings? Where do our first principles come from? What kind of certainty can we have? How do our mathematical ideas relate to the natural world? Subsequent courses consider mathematical topics within their scientific context: calculus advances celestial mechanics, while probabilistic and statistical reasoning is revealed as the essential guide and arbiter of every investigation into the natural world.