

## SCIENCE COURSES

*As a science department, we will guide students to more clearly see that God speaks to us both through His word, the special revelation of the Bible, and His work, the general revelation of creation. Throughout the various science classes our students will be confronted with the grandeur of creation and guided to recognize God as the designer, creator and sustainer of all that is. Since He created all for His own honor and glory, our students will be encouraged to respond to creation in worship and praise to God and challenged to a life of action that reflects that attitude. We will help our students develop a Christian ethical worldview that includes honesty in our interpretation of scientific data and accountability for those interpretations in our stewardship of creation. As our students are educated about creation, they will be able to understand both creation and our creator better. They will have a greater ability to make knowledgeable, wise decisions about their lives and about their care of creation.*

**786 Advanced Biology** One Semester Grades 11 & 12  
Prerequisite: Biology

This course is designed for those pursuing a science career. During the semester, an in-depth study of the relationships between God's living creation and their environment will be made. An emphasis will be placed on labs, field studies, and scientific readings. Topics studied will be cell biology, genetics, biotechnology, ecology, and some human biology.

**785 Advanced Chemistry – Introduction to Organic Chemistry** One Semester Grade 12  
Prerequisite: Chemistry

This is an introductory course to organic and biochemistry. The organic chemistry will include the classification and nomenclature of hydrocarbons and their derivatives, reactions and products of hydrocarbons, petroleum and the petrochemical industry, and polymers and the polymer industry.

**788 Advanced Chemistry - Inorganic** One Semester Grade 12  
Prerequisites: Chemistry, currently enrolled in Physics and FST or PreCalc/Calc

This is a completion course of first-year chemistry. The topics covered are liquids and crystalline solids, chemical equilibrium, acids and bases, electrochemistry, kinetics and thermodynamics.

**791 Anatomy/Physiology** One Semester Grades 11 & 12  
Prerequisite: Biology

This class is designed for those interested in a health-related career. This class is an elective and is usually taken during the junior or senior year. Selected systems of the body are studied in some depth. Students who are interested in a career in the health field are encouraged to take this course.

**781 Biology** Two Semesters Grade 10  
Prerequisite: Physical Science

During the semester, we will be studying the diversity of God's creation in His natural world. Organisms from all six kingdoms will be studied, not only in their form and function but also in their ecological interactions.

**783 Chemistry** Two Semesters Grade 11  
Prerequisites: Geometry, Algebra II, and currently enrolled in FST

This course is designed for those going to college who want to pursue a science-related career. The topics covered include matter and its changes, atomic structure and the periodic table, nuclear chemistry and applications, formulas and equations, the mathematics involved in formulas and chemical reactions, energy changes in reactions, physical phases of matter, and solutions.

## SCIENCE COURSES CONTINUED

### 784 Chemistry in the Community (ChemCom)

Two Semesters

Grade 11

Prerequisite: Biology

This course is designed for those going to college or a career not in the sciences. This is a complete chemistry course taught in a different sequence. Four units are covered: water, metals, air and energy

### 789 Global Science

One Semester

Grades 11 & 12

This class is for juniors and seniors who are non-college bound students. The class will focus more on "hands-on" activities and topics more applicable to life than a typical science class. This course covers topics in biology, chemistry, physics and earth science. The purpose of this course is to prepare students to be knowledgeable and responsible husbands, wives, parents and citizens in God's world.

### 790 Environmental Science

One Semester

Grades 11 & 12

This course is for those interested in an increased awareness of the existence and complexity of the many environmental problems. The course includes the geological history of Michigan, fundamental principles of ecology, a survey of current environmental problems, game management history and techniques, fresh water ecology, and fisheries management.

- Both 789 & 790 required if not taking Chemistry or ChemCom.

### 782 Life Science

Two Semesters

Grade 10

Prerequisite: Physical Science

Life Science is designed as an alternative to biology. It will follow the same general format as the biology course but a greater emphasis will be placed upon applications to everyday life. Most of the categories of living things will be studied. The student must purchase a workbook.

### 770 Physical Science First Semester & 771 Second Semester

Two Semesters

Grade 9

This course is an introduction to basic concepts in physics and chemistry. It is designed to meet the needs of all ability levels. There will be an emphasis on the development of skills in laboratory techniques and safety, measurements and calculations including the use of significant figures and statistics, graphing, precise writing and critical thinking. Christian responsibility toward each other and their work as they work together in numerous hands-on laboratory activities will be stressed. This course is intended as a preparatory step towards enabling the student to select future chemistry and physics courses.

### 787 Physics

Two Semesters

Grade 12

Prerequisites: Algebra II & FST or currently enrolled in FST

This course is taken by senior students finishing a major sequence in science. Laboratory work is frequent, and it provides principles for solving problems. The main topics studied are optics and waves, measurement and motion, mechanics, and electricity.