SC: Science

Arithmetic proficiency is a requirement for the AAS degree. Based on the arithmetic placement test, a student who shows need for improvement in arithmetic may be required to enroll in either or or in a math independent learning program (MD 008) before registering for classes that have arithmetic proficiency as a prerequisite. Arithmetic proficiency may also be demonstrated by a qualifying score on the mathematics portion of the SAT or ACT, or by transfer credit in college algebra, quantitative methods, precalculus, or calculus, or by a passing grade in an equivalent developmental mathematics course offered at another accredited college or university.

SC 032 — Color Science Laboratory

1 credit; 2 lab hours

This lab offers students a hands-on opportunity to learn about the various topics covered in SC 332. State-of-the-art equipment is used to perform spectrophotometric and colorimetric analysis of samples prepared using paints, dyes, filters, colored lights, and colored papers to explore the relationship between color and light, the principles of additive and subtractive color mixing, and instrumentation-based color matching.
Prerequisite(s): arithmetic proficiency (see beginning of Science section)
Co-requisite(s): SC 332.

SC 045 — General and Organic Chemistry Laboratory

1 credit; 2 lab hours

Stresses fundamental laboratory techniques. Experiments illustrate and reinforce principles presented in lectures. Organic compounds are prepared. Dyes and synthetic fibers are included where possible.
Prerequisite(s): arithmetic proficiency (see beginning of Science section)
Co-requisite(s): SC 145.

SC 046 — Basic Chemistry for Cosmetics and Fragrances Laboratory

1 credit; 0 lecture and 2 lab hours

This lab offers students a hands-on opportunity to learn about the fundamental techniques and methods of the chemistry laboratory as they relate to the various topics covered in SC 146.
Prerequisite(s): arithmetic proficiency (see beginning of Science section)
Co-requisite(s): SC 146.

SC 111 — Introduction to the Physical Sciences

3 credits; 3 lecture hours

Presents basic principles of chemistry, physics, and earth and space sciences with emphasis on understanding the physical world. Includes theoretical concepts as well as applications. Illustrated by suitable lecture demonstrations. (G3: Natural Sciences)
Prerequisite(s): arithmetic proficiency (see beginning of Science section).

SC 112 — Earth Science

3.5 credits; 3 lecture and 1 lab hours

The historical development, current research, and fundamental principles associated with meteorology, geology, and astronomy are studied. Trips to research and field sites are included. (G3: Natural Sciences)
Prerequisite(s): arithmetic proficiency (see beginning of Science section).

SC 121 — Introduction to Biological Science

3 credits; 3 lecture hours

Examines the fundamentals of biology with emphasis on molecular, cell, and organismal biology. Biotic diversity, evolution, and genetics are also presented. (G3: Natural Sciences)
Prerequisite(s): arithmetic proficiency (see beginning of Science section).

SC 122 — Field Biology

3 credits; 2 lecture and 2 lab hours

Covers the major principles of biology by studying organisms and their interrelationships in natural settings. Emphasis is given to habitats within New York City. Laboratory sessions, a weekend field trip, and visits to wildlife refuges, botanical gardens, and parks are included. (G3: Natural Sciences)
Prerequisite(s): arithmetic proficiency (see beginning of Science section).

SC 132 — Color Science for Photography

3 credits; 2 lecture and 2 lab hours

This color science course focuses on topics that are relevant to photography majors, including digital color and light. Weekly laboratory exercises provide students with hands-on experience with the technologies of color analysis and formation.
Prerequisite(s): Arithmetic Proficiency (see beginning of Science section) (G3: Natural Sciences).

SC 145 — Survey of General and Organic Chemistry

4 credits; 4 lecture hours

Develops essential principles of general and organic chemistry, emphasizing a descriptive, rather than mathematical, approach. Provides an awareness of the identities and uses of various chemical compounds. (G3: Natural Sciences)
Prerequisite(s): arithmetic proficiency (see beginning of Science section)
Co-requisite(s): SC 045.

SC 146 — Basic Chemistry for Cosmetics and Fragrances

3 credits; 3 lecture hours

Students are introduced to the basic principles of chemistry, with an emphasis on its application to the formulation of cosmetics and fragrances, in order to understand the physical and chemical properties of a range of beauty products. (G3: Natural Sciences)
Prerequisite(s): arithmetic proficiency (see beginning of Science section)
Co-requisite(s): SC 046.

SC 147 — The Forensics of Fiber Analysis

3 credits; 2 lecture and 2 lab hours

This course focuses on the fundamental concepts in forensic science by examining sample evidence collected from mock crime scenes. Chemical and spectroscopic techniques are used to introduce the concepts of forensic fiber analysis. (G3: Natural Sciences)
Prerequisite(s): arithmetic proficiency (see beginning of Science section).

SC 148 — The Science of Jewelry

3 credits; 2 lecture and 2 lab hours

This is an interdisciplinary course cross-listed with JD 148. This course gives students an understanding of the scientific properties and geologic origins of materials used in the manufacture of jewelry, current issues in ethical and sustainable sourcing of these materials, and economics of the precious metals past and present. Gen Ed: Natural Science (G3).

SC 149 — Chemistry for Cosmetics and Fragrances

3 credits; 2 lecture and 2 lab hours

This course examines the basic principles of chemistry and the chemistry of cosmetics and fragrances. Emphasis is placed on students' becoming scientifically literate in the fireld of chemistry thus allowing them to expand their knowledge of products and applications in the cosmetics industry. Gen Ed: Natural Science (G3).

SC 245 — Chemistry of the Everyday World

3 credits; 3 lecture hours

The natural and synthetic environment surrounding everyday life is used to introduce basic concepts of chemistry. In this course students explore fundamental concepts in chemistry by examining their environment and the ways in which they live.
Prerequisite(s): arithmetic proficiency (see beginning of Science section).

SC 253 — Ecology and Environmental Problems

3 credits; 3 lecture hours

Introduces principles and applications of ecosystem, community, and population ecology, with particular emphasis on the effects of human activities on the natural environment. Current problems in acidification, conservation biology, desertification, global climate change, habitat destruction, ozone depletion, waste management, and pollution are addressed. (G3: Natural Sciences)

Prerequisite(s): arithmetic proficiency (see beginning of Science section).

SC 254 — Ecology and Photography: Sustainable New York (Interdisciplinary Course)

3 credits; 1 lecture and 4 lab hours

This is an interdisciplinary course cross-listed with PH 254. It is an introduction to field ecology, environmental storytelling, conservation, and wildlife photography and videography. Students are exposed to field trips, lectures, and discussion within some of New York's parks and habitats. Through exploration and personal observations, applied scientific research methods are translated into a series of still pictures and moving images about environmental issues. Gen Ed: The Arts (G6).

SC 299 — Independent Study in Science

1-3 credit

Prerequisite(s): a minimum 3.5 GPA and approval of instructor, chairperson, and dean for Liberal Arts.

SC 326 — Human Nutrition

3 credits; 3 lecture hours

Studies the basic principles of nutritional science, including the relationships between health, disease, and special nutritional requirements. History, fads, and fallacies of nutrition are covered. (G3: Natural Sciences)

Prerequisite(s): arithmetic proficiency (see beginning of Science section).

SC 331 — Color Science and Digital Color Reproduction

3 credits; 2 lecture and 2 lab hours

Not open to students who have taken SC 332. The basic principles of color science and how they are applied in digital color reproduction are introduced. Students study the psychophysical basis of color perception, the measurement of color, and additive and subtractive color mixing. They learn how color is input into the computer, how the computer manipulates and displays color, and how color is reproduced in output.

Prerequisite(s): arithmetic proficiency (see beginning of Science section).

SC 332 — Color and Light

3 credits; 3 lecture hours

The basic principles of color science, including color measurement and color reproduction, are examined. Emphasis is on the physical basis of color: the relation between color and light, the interaction of light and matter, and the physics of light. Among the topics covered are color vision, color in art and nature, color imaging, light sources, CIE, colorimetric analysis, color matching, and quality control. (G3: Natural Sciences)

Prerequisite(s): arithmetic proficiency (see beginning of Science section)

Co-requisite(s): SC 032.

SC 391 — Crime Scene Chemistry (Honors)

4 credits; 3 lecture and 2 lab hours

This course explores fundamental concepts in chemistry by examining actual case studies related to criminal activity. Students learn the techniques used by investigators to gather and analyze evidence and data. The laboratory section of the course provides hands-on experience with the techniques used by scientists in the field of forensic chemistry. (G3: Natural Sciences) Prerequisite(s): qualification for Presidential Scholars Program or 3.5 GPA with approval of dean for Liberal Arts, and arithmetic proficiency (see beginning of Science section).

SC 499 — Independent Study in Science

1-3 credit

Prerequisite(s): a minimum 3.5 GPA and approval of instructor, chairperson, and dean for Liberal Arts.