School of Science

Dean: Gail M. Simmons; *Assistant Dean:* Paula A.Y. Maas

The School of Science at The College of New Jersey is dedicated to providing students with an outstanding education in biology, chemistry, computer science, mathematics and statistics, and physics that emphasizes the excitement of scientific exploration and the importance of science to society. Through coursework, independent study, faculty-sponsored laboratory or field research, and internships, the school aims to foster a deep understanding of the concepts and processes of science. The School of Science is also dedicated to producing excellent teachers of science in cooperation with the School of Education through elementary education programs and its secondary education programs in biology, chemistry, physics, and mathematics. Students in the School of Science can expect to go on to rewarding careers in a wide variety of fields including graduate study, professional schools, teaching, high-technology industry, public service, media, or any other area in which a strong science background is important.

The departments of the School of Science are located in adjacent buildings next to Lake Ceva: the Science Complex (chemistry, mathematics and statistics, and physics), the Biology Building (biology), and Holman Hall (computer science). The Science Complex and the Biology Building are newly constructed facilities, and they, along with Holman Hall, are equipped with modern tools of science and science education—including a planetarium, astronomical observatory, optics laboratory, nuclear magnetic resonance laboratory, spectroscopy and chromatography suite, molecular modeling suite, electron microscopy suite, molecular biology laboratory, greenhouse, Sun workstation laboratory, Intel computing laboratory, mathematics education laboratory, and several computer classrooms. Individual faculty laboratories are designed to allow intensive interaction between students and faculty in an undergraduate-focused research environment.

The School of Science offers a designated option for entering first year students who are undecided about their choice of major but are leaning towards math or science. Students in this matriculated pre-major program are designated "Open Option—Science." During the first year of study at the College they receive developmental advising through the dean's office which facilitates both the self-exploration and education regarding career opportunities necessary to enable the student to select an appropriate major. It is expected that students entering the College as Open Option—Science designees will have formally declared a major (either within the School of Science or in another school) by the end of their first year. Students cannot graduate with this designation, and early declaration of the appropriate major will facilitate timely graduation.

Suggested First-Year Course Sequence for Open Option (UNDS)

The suggested first-year sequence of study for Open Option—Science students is designed to assist in the exploration of majors, and therefore varies between students. Selection of all courses is made with advisement.

Fall

Must register for:

SCI 099/Orientation to Science	0 course units
FSP /First Seminar	1 course unit

Probably will register for at least one of (depending upon major interests):

MAT 127/Calculus A	1 course unit
CHE 201/General Chemistry I	1 course unit

And might register for (depending upon major interests), one of:

If Biology:
BIO185/Themes in Biology 1 course unit
If Mathematics or Statistics:
MAT 200/Discrete Mathematics 1 course unit
If Physics or Chemistry:
PHY 201/General Physics I 1 course unit
If Computer Science:
CSC 220/Comp. Sci. I: Comp. Prob. Solv. 1 course unit
or
CSC 250/Accelerated Computer Science I and II
If interests outside School of Science: 1 course unit
A Liberal Learning course from: Arts and Humanities (Literary, Visual, and Performing Arts or World View and Ways of Knowing); Social Sciences and History (Behavior, Social or Cultural Perspectives, or Social Change in Historical Perspective); Second Language

Total **4 course units**

Spring

Selection of courses for first-year spring semester is made with advisement. In general, the next course in the sequence for the possible major within the School of Science is suggested, with exploration of alternative majors continuing through selection of appropriate Liberal Learning courses.

The Office of the Dean of Science is in the Science Complex P105. The secretary to the dean is Monica Zrada. You may contact the dean at 609.771.2724.

Descriptions of courses offered under the School of Science (prefix SCI), in addition to those listed under their respective departments, follow.

SCI 099/Orientation to Science **0 course unit**
Required of all first-year Open Option—Science students, this course provides an introduction to studying science and mathematics at the college level, to the academic and other support resources at The College of New Jersey and to the major programs offered within the School of Science. It is grounded in theory of group developmental advising, and students will explore career and collegiate expectations and goals and their own active role in their undergraduate experience.

SCI 103/Physics and Earth Science **1 course unit**
Restriction: Open to students in the School of Education
An introduction to physics and earth science, focusing on basic topics in a non-calculus framework. Topics covered will include: mechanics, fluids, heat, resonance, optics, electromagnetism, solar motion and seasons, global pressure and wind belts, rocks and minerals, topography and maps, relative, and absolute dating of earth. Experiments and demonstrations model educational approaches useful in elementary education. This course is designed for elementary education majors to help them meet New Jersey state standards in science.

SCI 104/Cancer, Genes, and the Environment **1 course unit**
Restriction: Open to students in the School of Education

An introduction to biology and chemistry, focusing on how these sciences pertain to normal and abnormal cell structure and function in health and disease. Laboratory experiments will highlight environmental effects on cellular processes. This course is designed for elementary education majors to help them meet New Jersey state standards in science.

SCI 111/Biochemistry and the Human Body **1 course unit**

Restriction: Open to students in the School of Nursing

An introduction to chemistry and its biological aspects, focusing on how chemical and biochemical processes pertain to normal and abnormal structure and function in the human body. Laboratory experiments will highlight important chemical processes as well as laboratory techniques important for further study of human biology in a nursing clinical context.