

CHEMISTRY AND PHYSICAL SCIENCES

PLV



The Department of Chemistry and Physical Sciences on Pace University's Westchester campus offers **Bachelor of Science (BS)** degrees in **Chemistry** and **Biochemistry**, both certified by the American Chemical Society. A prestigious seal of approval by the world's chemists, this accreditation establishes Pace University as one of the nation's foremost universities and colleges in the field of chemical and physical sciences. Throughout our curriculum, we facilitate student learning and success through the power of chemistry as integrated with case studies in a variety of topical areas of study. Real-life examples include chemical biology, clinical, medicinal, and pharmaceutical chemistry, environmental and forensic chemistry, food and feed chemistry, nutrition and diet, and advanced materials and energy.

We are committed to excellent teaching, scholarly growth, and service, while providing a nurturing environment for our students. Pace University's motto of *Opportunitas* is central to our teaching philosophy. We take it to mean that our students, upon graduation, will possess the critical and analytical thinking skills, the creative minds, scientific and instrumentation competency, and the specialized abilities to perform proficiently and confidently in the world of science. We not only aim to ensure students learn what they need to be successful scientists and citizens of the world of today, but also to instill in them the ability to *learn how to learn* so that they can continue to grow with the ever-expanding knowledge of the 21st century. Students often complete 1-2 years of paid internships and land high-paying jobs in the field upon graduation.

BS IN CHEMISTRY

The study of chemistry is both challenging and rewarding. It is a central science offering a wide range of career options. By prudent selection of elective courses, in consultation with faculty advisors, chemistry majors may choose a specialization in pre-medical, pre-dental or pre-veterinary studies. They may also elect to specialize in such areas as environmental, forensic, or industrial chemistry or management science.

BS IN BIOCHEMISTRY

The degree in biochemistry requires the same core studies as the chemistry degree, including fundamental chemistry, biology, physics and math courses, as well as courses in biology and upper division work in biochemistry, advanced biochemistry and advanced biochemistry laboratory work. Students will pursue research with department faculty members. Biochemistry majors often have a desire to continue their study to obtain a PhD, MD or a DDS degree.

PROFESSIONAL PREPARATION

Our graduates have an excellent rate of success whether they continue on to complete advanced degrees such as an MD; DMD; DDS; DO; or PhD; or if they proceed to work in industry. Chemistry and biochemistry degree majors are always in great demand and have higher than average admittance rates in medical and other health-related schools.

For more information, please contact Amy Pellon at apellon@pace.edu.

FACULTY AND FACILITIES

The Dyson Hall of Science, a state-of-the-art multidisciplinary science research and education facility, recently underwent a \$75 million renovation, which included the creation of more integrated research and teaching space and updated experimentation equipment. Our faculty members are actively engaged in a broad variety of research projects which often involve their students. Research topics include the following:

Karen Caldwell: Remediation of interior building surfaces contaminated by methamphetamine.

Irina Gazaryan: Neuroprotective effect of HIF prolyl hydroxylase inhibition.

Cihan Gunduz: Synthesis and characterization of heterocyclic molecules and their crown ethers derivatives' cation bonding and fluorescence properties.

Sergey Kazakov: Hydrogel/lipid membrane assembly: modeling membrane system of cell; hydrogel nanoparticles, lipogels, nanofilms, liposomes. and lipid membrane synthesis manipulation and characterization; synthetic and natural ionic reservoirs; bioanalytical devices, drug delivery and control release systems.

Mary Minnis: Geographic information systems (GIS), consumer chemistry, and environmental chemistry.

David N. Rahni (Chair): Bio-electro-analytical chemistry; development of bio-sensors and bio-actuators for in-vivo monitoring or the in vitro assay of key metabolites in tissues or bodily fluids; environmental, forensics, and neuroscience.

Mohsen Shiri-Garakani: Quantum spacetime, unified gravity, foundations of quantum theory, quantum logic, history and philosophy of physics, applications of physics in complex system theory.