Dear CHEM 123 Students:

On behalf of your lecture and laboratory professors I want to welcome you to the CSB/SJU General Chemistry program. We hope you will learn a lot and enjoy your chemistry experience this semester.

I also want to tell you about something new in chemistry. We (and a number of other schools) are in the process of changing our general chemistry course so that the topics more closely build on each other than they have in the typical general chemistry course. We will start with atoms, the basic building block of matter. Then we will see how they can be put together into molecules and then learn how the different arrangements of atoms affect the properties of the molecules. This is a key idea in chemistry—the structure of a compound controls its properties. And, it works in reverse--if there is a set of properties that we want a substance to have (for example, a new antibiotic or a biodegradable polymer), we can design a molecule or a structure that is likely to have these properties. This course emphasizes the relationships between structure and property.

This approach has many advantages. First, developing knowledge from the ground up in a logical sequence should make chemistry easier to learn. Second, it will build upon but be different from your high school chemistry course. Third, it will focus on structure-property relationships that are important in biology, pharmacy and medicine so what you learn will be closely connected to other courses or future career plans for many of you.

There are a number of teaching tools that we will use to help you learn. We have selected a textbook (McMurry and Fay’s “Atoms First”) that emphasizes the construction of chemical substances from the ground up. In addition, there is an online homework system, called “Mastering Chemistry”, that is connected to the textbook and will give you practice and instant feedback to develop your understanding of course material. One of the CHEM 123 instructors, Dr. Chris Schaller, has also prepared a web-based textbook called “Web Materials on Structure and Reactivity in Chemistry” featuring topics, animations and applications that are not in the general chemistry textbook. Another instructor, Dr. Anna McKenna, has created “Genchem Tutor” a Moodle website designed to help you get extra practice learning chemistry. The entire chemistry department has contributed to a workbook that will provide a number of in-class or homework activities that emphasizes applications of chemistry. And, of course, there is the chemistry lab manual that will help you develop hands-on skills. Though this may seem like a lot of different sources to keep straight, your instructor will provide a calendar or detailed course syllabus to make sure that you know when to use each source. We also believe that each of these sources contributes something significant to the course and that you will benefit from them all.

We are excited to begin teaching chemistry in this new way and helping you learn. We hope you enjoy the course.

Sincerely,

Brian Johnson

General Chemistry Coordinator