The Chemistry Major Dilemma—What Concentration Should I Choose?

A chemistry degree provides fundamental knowledge of the behavior of matter and is a foundation for a wide variety of pathways. It provides skills that are highly transferable with an emphasis on problem solving. Graduates have success in health care, research, manufacturing, quality assurance and non-scientific fields. Each major will customize the degree to one of several concentrations.

**Bachelor of Science in Chemistry**

**Professional Concentration**
This is designed for students intending to go to graduate school to earn a PhD in Chemistry. The curriculum is based on recommendations of the American Chemical Society. **Distinctives:** strong math background, including 1 year of physical chemistry and calculus-based physics.

**Biochemistry Concentration**
This is designed for students to have a strong chemistry background but allow enough flexibility for a minor (preferably biology). It is particularly suited to premedical students and students who intend to go to graduate school in biochemistry or a biology related field. **Distinctives:** strong and comprehensive chemistry background and a second concentration.

**Medicinal Chemistry Concentration**
This is designed for students who wish to learn about existing pharmaceutical products and how to develop new drugs. It is appropriate preparation for graduate school in chemistry, biochemistry, biology or health science fields including medical, dental, veterinary or pharmacy. **Distinctives:** strong chemistry and biochemistry background including two courses in medicinal chemistry.

**Nuclear Science Concentration**
This is designed for students who which to work in the nuclear science industry, particularly at nuclear power plants, and with flexibility to meet career goals. **Distinctives:** three courses in nuclear science including a measurements course that provides hands-on experience with common radiation detectors.

**Forensic Science Concentration**
This is designed for students who wish to work in a forensic lab, go to graduate school in forensic science or seek employment with an emphasis on analysis. It provides substantial flexibility to choose chemistry and nonchemistry electives directed toward career goals. It is NOT suitable for graduate school in chemistry and biochemistry. **Distinctives:** strong analytical chemistry emphasis with some communication and/or judicial background.

**Education Concentration**
This is designed for students who wish to teach high school chemistry. **Distinctives:** strong chemistry background and teaching certification

**Bachelor of Arts in Chemistry**
This is designed for students who desire a broad educational experience with an emphasis in chemistry. **Distinctives:**

Classes in most traditional chemistry fields and a second major or minor.

**Any Concentration**

**Introductory courses**
- All tracks require the following course in the first two years:
  - Precalculus (MATH 1113) and Calculus (MATH 2011)
  - Principles of Chemistry I and II with lab (CHEM 1211, 1211L, 1212 and 1212L)
  - Organic Chemistry I and I includes lab (CHEM 3411 and 3412)
- All tracks also require: Quantitative Analysis (CHEM 2810) which may be taken any time after CHEM 1212 and 1212L
- Most tracks also require: Principles of Biology I and II (BIOL 1107 and 1108)
- Some tracks also require or accept: Elementary Statistics (MATH 2210)

**Career Preparation**
- Excellent preparation for bachelor-level chemistry job
- With help of an advisor, can be an excellent fit for medical or dental school