COLLEGE OF SCIENCES AND LIBERAL ARTS

Laura J. Vosejpka, Ph.D.
Dean of the College of Sciences & Liberal Arts
3-103 AB, 810-762-7433
csla@kettering.edu

The College of Sciences and Liberal Arts is home to the Departments of Chemistry, Biology, Chemical Engineering, and Biochemistry, as well as the Departments of Computer Science, Liberal Studies, Mathematics, and Physics. Courses offered in the College of Sciences & Liberal Arts include traditional courses in math, science, communications, humanities, and the social sciences but also a variety of interdisciplinary and special topics courses that combine aspects of several disciplines together in a single course or cluster of courses.

Academic Programs

Applied Biology

The Applied Biology program at Kettering equips students with the practical knowledge and skills necessary for success in any biology-based industry and institution. Our rigorous curriculum has at its core a challenging laboratory component with a strong focus on molecular and cellular biology, emphasizing undergraduate research and the techniques and problem solving abilities needed in the biomedical, pharmaceutical, and biotechnology industries. Many of our students decide to pursue graduate education and a Kettering Applied Biology degree is a fantastic preparation for medical, veterinary, dental or physician’s assistant school.

Applied Mathematics

Mathematics is the universal language of STEM and business. The Kettering Applied Math degree provides, at its core, the skills and knowledge that students need to use math to create real change. We offer concentrations in Applied and Computational Math, which combines mathematics with electrical, industrial or mechanical engineering, or physics or computer science; Applied Statistics, which includes probability and modeling, mathematical biology, which brings math, biology and chemistry together, and our Actuarial Science program, which is ranked second in the country by the prestigious Safeco Insurance rankings (and offers one of the best salary profiles of any STEM degree).

Kettering math majors have access to the best facilities and the outstanding faculty who are recognized for their excellence in research and teaching. If you love numbers and want to know how to turn that love into a career, Kettering is your school.

Applied Physics

Kettering offers the only ABET accredited Applied Physics program in the country! We prepare physicists who have a deep understanding of physics theory as well as the skills and creative thinking needed to solve real world problems. Access to state of the art labs including a new NSF sponsored high performance computing cluster and the chance to work with research faculty who are active in the areas of acoustics, medical physics, biophysics and optics offer opportunities for excellent students to participate in on campus research for their co-op terms or to use their knowledge in a variety of external co-ops around the country, including NASA.

Biochemistry

The Kettering Biochemistry program starts with a solid foundation in chemistry and then adds additional courses in molecular and cellular biology, resulting in a solid preparation for the biomedical, pharmaceutical and biotechnology industry. Our faculty have rigorous externally funded programs that involve undergraduates in research from the first courses! Outstanding students have the opportunity to compete for funded on campus research co-op positions and our students also take on challenging co-op positions in external industries around the country. Many of Kettering’s Biochemistry graduates have gone on to top graduate programs and because biochemistry combines the rigor of both chemistry and biology, it provides an excellent preparation for medical school.

Chemical Engineering

Kettering offers one of only six ABET accredited chemical engineering programs in Michigan and it is definitely one of the best. Our faculty are not only outstanding, externally recognized researchers, they are also dedicated to teaching and offer a curriculum that is cutting edge, hands-on and relevant to solving real word problems in a variety of industries. Kettering Chemical Engineering students have a variety of co-op options in the automotive industry, the energy industry and the chemical industry and they can also apply to do sponsored research on campus for their co-op term, working on graduate level research alongside faculty mentors.

Chemistry

Chemistry has been called the Central Science, bridging the disciplines of biology and physics and at Kettering, our chemistry majors do much more than study the basics of chemistry. The chemistry program offers a strong core in the five sub-disciplines of chemistry: organic, analytical, physical, inorganic and biochemistry, but it doesn't stop there. Kettering goes a step further than most schools, offering the opportunity to engage in cutting edge research in environmental analysis, protein biophysics and molecular microwave spectroscopy as well as preparing students for industry co-op positions in the pharmaceutical, automotive and energy industries.

Computer Science

Computer Science is one of the fastest growing majors in the world. Computer scientists are needed in every imaginable industry, from the automotive industry, programming autonomous vehicles to the cybersecurity industry, protecting the world’s most sensitive data.
Kettering faculty know that our students have to be exposed to state of the art technologies in their curriculum and our faculty bring their expertise in virtual reality, gaming, 4G networks and data science right into the classroom. Kettering students have co-op opportunities in top industries, like the automotive and health system sectors as well as government security, and they also have the chance to work directly with faculty on current cutting edge research.

**Engineering Physics**

Kettering’s Engineering Physics degree truly represents the best of STEM, combining the theory of physics with the practice of engineering. As one of only a very few programs in the state, we can confidently state that we are at the forefront. Our students have access to state of the art equipment, such as the new high performance computing cluster, and have the opportunity to compete for research co-ops working with our world class, externally funded faculty. The ABET accredited curriculum allows our students to explore the nexus between theoretical physics and applied engineering, uniquely preparing them for success in nearly any STEM related career.

**Liberal Studies**

As scientists and engineers, Kettering graduates will use their technical talent to solve complex human problems. The Kettering Department of Liberal Studies offers a curriculum that nurtures a multidisciplinary approach to understanding those human problems from a variety of perspectives. The department is home to the broad disciplines of humanities, social sciences, and communications. It offer minors in Economics, History, International Studies, Literature and Pre-Law as well as study in interdisciplinary areas such as social justice and community engagement. The unique Liberal Studies curriculum features seminars at both the sophomore level (Understanding the Human Condition) and the senior level (Leadership, Ethics and Contemporary Issues). Together, these courses offer students a structured approach to developing the intellectual skills of critical thinking, analysis, written and oral communication, and creativity that are crucial to a complete Kettering educational education.

**Minors**

- Acoustics
- Applied and Computational Mathematics
- Applied Optics
- Biochemistry
- Biology
- Chemistry
- Computer Gaming
- Computer Science
- Cybersecurity