

# MASTER OF SCIENCE IN TOXICOLOGY, PLAN B

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Toxicology is the study of the effects of chemicals and other potentially harmful agents on biological systems. The field draws upon the sciences of biology, chemistry, biochemistry, physiology, cell and molecular biology, neuroscience, and pathology. The core curriculum provides a comprehensive background in toxicology, enhanced by elective offerings in the department and the many basic and health science courses available at CSU.

The non-thesis M.S. in Toxicology, Plan B transitions graduates into MD, DVM, PharmD, and other professional programs, and prepares students for research careers in industry, government, and academia. Graduates can also find professional employment in public and private sector positions such as environmental protection, risk assessment, or product safety evaluation.

[Learn more about the Master of Science in Toxicology on the Department of Environmental and Radiological Health Sciences website.](#)

[Students interested in graduate work should refer to the Graduate and Professional Bulletin.](#)

## Learning Objectives

Students successfully completing this degree will be able to:

1. Analyze and interpret dose-response information in both qualitative and quantitative terms.
2. Describe the fundamental processes of absorption, distribution, metabolism and elimination and the implications of these processes and interpret data related to them.
3. Describe toxic responses affecting organs, physiological systems, cells and biomolecules and interpret related toxicological data.
4. Explain molecular, cellular and physiological mechanisms of toxicity and critically evaluate research results providing evidence for these mechanisms.
5. Describe xenobiotic biotransformation pathways that lead to bioactivation and detoxification.
6. Correctly interpret pathological changes due to toxicant exposure.
7. Analyze and interpret toxicological data.