Human Toxicology, MS

Learning Outcomes

Students will be able to:

- demonstrate an in-depth knowledge of the principles of toxicology, including metabolism, toxicity, risk assessment, and specific expertise related to the area of their thesis (molecular biology, in vitro and/or in vivo techniques, analytical methods);
- apply the knowledge and skills of toxicology to conduct independent and innovative research;
- demonstrate high ethical and professional standards and responsible conduct in research; and
- synthesize the knowledge and skills of toxicology to succeed as a professional in diverse toxicology careers.

Requirements

The Master of Science program in human toxicology requires a minimum of 39 s.h. of graduate credit and a thesis. Students must maintain a cumulative grade-point average of at least 3.00.

The program is designed for students who wish to pursue a master's degree as a second degree or through part-time study, particularly those who perform toxicologists' functions in their jobs and who need additional training.

Entering students should have backgrounds in the biological, engineering, and physical sciences and should have completed courses in introductory chemistry, introductory biology, and organic chemistry.

After entering the program, students work with their mentor to choose an advisory committee, which meets at least once a semester to help them explore their research interests. The committee also provides consultation on coursework and research activities and serves as the committee for the final examination (thesis defense).

The Human Toxicology Program is flexible. Students work with their advisory committees to plan a course of study tailored to their individual interests and goals within the field of toxicology.

Required Courses

MS students in human toxicology must successfully complete the following coursework as part of their course of study.

Course #	Title	Hours
One of these:		
OEH:6710	Human Toxicology and Risk Assessment	3
PHAR:6501	Principles and Mechanisms of Chemical Toxicology	3
And all of these:		
TOX:7173	Professional Development in Toxicology	2
TOX:7180	Toxicology Research Seminar (enrollment is required each semester)	0-1
BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I	0
OEH:6720	Advanced Toxicology	4

Upon successful completion of all requirements, including the thesis and its oral defense, students are awarded the Master of Science degree.

Admission

Prospective students may apply to the program via a centralized application system; see Admission Information on the Human Toxicology Program website.

Completed applications should be submitted by Jan. 1; applications submitted after that date are reviewed as they are received and are considered for any remaining openings.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Academic Plans

Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

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Course	Title	Hours
Academic Career		
Any Semester		
39 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. [a]		
Graduate College program GPA of at least 3.00 is required. [b]		
	Hours	**0**
First Year		
Fall		
BIOS:4120	Introduction to Biostatistics	3
PHAR:6501 or OEH:6710	Principles and Mechanisms of Chemical Toxicology or Human Toxicology and Risk Assessment	3
TOX:7173	Professional Development in Toxicology	2
TOX:7180	Toxicology Research Seminar [c]	0
TOX:7201	Toxicology Research	3
	Hours	**11**
Spring		
BIOS:5120	Regression Modeling and ANOVA in the Health Sciences	3
OEH:6710 or PHAR:6501	Human Toxicology and Risk Assessment or Principles and Mechanisms of Chemical Toxicology	3
TOX:7180	Toxicology Research Seminar [c]	0
TOX:7201	Toxicology Research	3

Elective course [d]		3
	Hours	**12**
Second Year		
Fall		
BMED:7270	Scholarly Integrity/Responsible Conduct of Research I	0
OEH:6720	Advanced Toxicology	4
TOX:7180	Toxicology Research Seminar	0
TOX:7201	Toxicology Research	4
Elective course [d]		3
	Hours	**11**
Spring		
BMED:7271	Scholarly Integrity/Responsible Conduct of Research II	0
TOX:7180	Toxicology Research Seminar	1
TOX:7201	Toxicology Research	6
TOX:7300	Thesis/Dissertation	1
Final Exam [e]		
	Hours	**8**
	Total Hours	**42**

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Graduate College program GPA is comprised of all courses that are approved degree requirements. If a student takes more than the minimum required number of semester hours to complete the degree, but all courses taken are eligible to count toward the degree, those courses will be included in the Graduate College program GPA.

c Students register for 0 s.h. until they present their thesis defense, and then should register for 1 s.h.

d Choose from interdisciplinary coursework with advisor approval.

e Thesis defense.