



Doctor of Philosophy Degree Requirements

The PhD in Pharmaceutical Sciences prepare graduates for industrial or other positions or for more advanced academic training in areas requiring computer-assisted analysis of biopharmaceutic, pharmacokinetic, pharmacodynamic, toxicologic, or other types of experimental data. Students are admitted after earning a BS degree or higher (an MS degree is not a prerequisite.). Depending on individual progress, the degree is normally completed in 4-6 years.

Studies in preclinical and clinical pharmacology, pharmacokinetics, pharmacodynamics, and toxicology typically involve collection of various types of experimental data in individual and groups of biologic preparations, animals, and human subjects. Appropriate methods of analysis of such data requires an understanding of the underlying science and well as use of biostatistics, computational methods, and pharmacokinetic and pharmacodynamic modeling. Scientists with proficiency in pharmacometrics can assist in the design and analysis of protocols and studies related to drug therapy questions and provide insights into the processes which control the time course of drug concentrations and clinical, pharmacologic and toxicologic responses.

Required courses:

PHC 500 Principles of Drug Development, 2 credit hours

PHC 507 Principles of Biological Transport, 2 credit hours

PHC 508 Drug Delivery: Principles and Applications, 2 credit hours

PHC 607 Intermediate Pharmacokinetics, 3 credit hours

PHC 630 Drug Metabolism and Disposition, 3 credit hours

MT 501 Methods of Analysis (counts as a departmental course), 4 credit hours

PHC 506 or STA 527 Biostatistics (depending on background and desired depth of knowledge, both courses can be taken if desired), 3 credit hours

Other Requirements

Various - Elective courses totaling 10 credit hours, of which 6 credit hours must be taken outside the department

PHC 511 Research Proposal 3 credit hours

PHC 599 Supervised teaching (2 credits/semester when assigned as a TA) 4 credit hours

PHC 613/614 Departmental seminars (1 credit/semester for the first 8 semesters) various credit hours

PHC 502 Selected topics (for journal clubs and research group meetings) various credit hours

PHC 615/616 Thesis Research various credit hours

Minimum total number of credits needed for program: 72 credit hours

Stipend Support and Tuition Waiver

All PhD students are normally supported by a departmental stipend with complete tuition waiver during their entire period in the program, subject to satisfactory progress. The stipend is normally the same as that prevailing for NIH predoctoral trainees. Scholarships and fellowships obtained by the student herself/himself may be added to the stipend. For additional details on these and other aspects of the program, see the complete [PharmSci Handbook for Graduate Students](http://pharmacy.buffalo.edu/files/uploads/admissions/grad_policy_20082.pdf) (http://pharmacy.buffalo.edu/files/uploads/admissions/grad_policy_20082.pdf).