DOCTOR OF PHILOSOPHY IN THE FIELD OF BUSINESS ADMINISTRATION, DECISION SCIENCES CONCENTRATION

The doctoral program in business administration with a concentration in decision sciences is designed to prepare students for research careers. This area of specialization emphasizes the process of constructing and analyzing mathematical and statistical models of real-world managerial problems and the understanding of the role and uses of such models in the management of complex organizations. Problems are analyzed using tools from mathematical programming, game theory, probability and statistics. Research in decision sciences may focus on foundational issues, such as dealing with uncertainty, modeling complexity and risk preferences, as well as on novel applications in operations and project management.

Visit the program website (https://business.gwu.edu/academics/departments/decision-sciences/academics/) for additional information.

REQUIREMENTS

The PhD in business administration involves two years of formal courses established by each Department and approved by the doctoral committee. Students take a minimum of 45 credits during their program, including 24 credits in core courses, a 3-credit summer paper, and 18 credits in elective courses. Students should consult their faculty advisory group about the required courses and electives for which they should register.

Students should complete at least 39 credits within the first two years from matriculation. The remaining 6 credits should be completed during the third year.

Requirements for the decision sciences concentration

Code	Title	Credits
The following 27 credits constitute the core requirements for the decision sciences concentration*:		
Four courses (12 credits) in research methods and quantitative analysis, selected from the following:		
DNSC 8397	Advanced Special Topics (Methodology Course)	
ECON 8301	Microeconomic Theory I	
or ECON 8375	Econometrics I	
ECON 8376	Econometrics II	
STAT 6201	Mathematical Statistics I	
STAT 6202	Mathematical Statistics II	
Four doctoral seminars (12 credits) covering important studies in the student's area of interest.		
DNSC 8393	Applied Stochastic Models for Business	
DNSC 8394	Stochastic Programming	
DNSC 8397	Advanced Special Topics (Foundations of Optimization)	
DNSC 8397	Advanced Special Topics (Foundations of Game and Decision Theory)	
Completion of a 3-credit summer research paper during the first or first and second summer, as required by the student's area of interest.		
Electives		
The remaining 18 credits required are taken in elective courses, selected from the following:		
DNSC 8328	Special Topics in Decision Making (Bayesian Statistics)	
DNSC 8392	Computational Optimization	
DNSC 8397	Advanced Special Topics (Operations and Supply Chain Management)	
DNSC 8397	Advanced Special Topics (Machine Learning)	
In addition to the above electives, students can, with the approval of the Decision Sciences Ph.D. program coordinator, register for other relevant doctoral level courses offered by other GWSB Departments, other GW Schools, or by other universities which are part of the consortium of Universities of the Washington Metropolitan Area.		

***Policies for core courses**

In general, all core courses should be doctoral courses, i.e., those at the 8000 level. All courses must be taken for letter grades. Required courses cannot be waived without substitution except in unusual circumstances as determined on a case-by-case basis. Examples of unusual circumstances include students holding a specialized master's or doctoral degree where equivalent core courses were taken in a particular area (such as statistics or mathematics). Students may petition the associate dean of research and doctoral programs to substitute up to 12 credits of required courses with alternative courses approved by the faculty advisory group.

Code	Title	Credits
Comprehensive examination		
After the student completes the coursework and the summer paper requirements, the faculty advisory group and department faculty administer a comprehensive examination. The format of the comprehensive examination is at the discretion of the advisory committee, subject to approval by the doctoral committee when evaluating the study plan. The comprehensive examination establishes the student's mastery of the current and classic literature. The comprehensive exam can be written, in-class, or take-home, and may include an oral component. Failure to pass the comprehensive examination in two attempts leads to termination from the program.		
Dissertation		
Following successful completion of the comprehensive examination, the student is considered a doctoral candidate, and may form a dissertation committee, and develop a dissertation proposal. During this stage, students prepare, submit, and defend a dissertation.		
Other policies		
All course work and required comprehensive examination must be completed within five years of matriculation. All program requirements must be completed within seven years of the date of matriculation.		

The doctoral program is administered and supervised by the associate dean and the committee on doctoral studies. For more detailed information about this program, contact the GWSB Doctoral Program Office.