

Doctor of Philosophy in Building Performance & Diagnostics (PhD-BPD)

Description

The PhD in Building Performance & Diagnostics degree program is intended for practitioners, researchers, and educators in architecture and the building industry who wish to be leaders in advanced building technologies and their performance.

Curriculum

% For details on Residency requirements see Page 2.

YEAR 1	Fall	Spring
General 9 units	48-711 Paradigms of Research in Architecture (9)	
Core 21 units	48-722 Building Performance Modeling (12)	48-723 Performance of Advanced Building Systems (9)
Core Selectives 18 units	CORE SELECTIVES* (Fall or Spring)	
Computing/ Alternatives 18 units	Recommended computation courses (Fall or Spring) 15-110 Principles of Computing (10) 15-121 Introduction to Data Structures (10)	
Open Selection 9 units	OPEN SELECTION*** (Fall or Spring)	

* Core Selectives are courses that are accepted as fulfilling the requirement of showing proficiency in aspects of BPD. Please see (page 3) of MSBPD Curriculum for a list of approved Core Selective options.

** Computing is not required, but is recommended for those intending to do a PhD in the area of performance simulation. Students may substitute these Computing units with a Selective or Elective, subject to approval by the PhD-BPD Track Chair.

*** See (page 2) of MSBPD Curriculum for notes on Open Selection options.

YEAR 2	Fall	Spring
Core 24 units	90-711 Empirical Methods for Public Policy & Management (12) †	90-722 Management Science I: Optimization & Multi-Criteria Methods (6) † 90-760 Management Science II: Decision Risk Modeling (6) † 48-721 Building Controls & Diagnostics (12)
Electives 15 units	ELECTIVES (Fall or Spring)	
Project 36 units	48-702 Master's Project (18+) ††	48-703 Master's Project (varies 18-36) ††

† Select 90-711, or combine the 90-722 and 90-760 courses for a total of 12 units.

†† Please see MSBPD Curriculum for information on the Project course.

All course numbers/titles and their schedules may be subject to change. For additional and up-to-date information on these and other course offerings (course descriptions, schedules, instructors, etc.) please visit the University's Schedule of Classes (SOC) webpage at: <www.cmu.edu/hub/courses/soc.html>.

**Curriculum
(Cont.)**

Year 3+... §	
Independent Work (w/ Advisor)	Expected Effort**
Game Plan ↓	1 semester
Qualification ↓	1 semester
Proposal ↓	1 semester
Dissertation	3 semesters

% Residency The minimum required full-time residency for all PhD programs in the School of Architecture is two (2) years. Full-time status (minimum 36 units per semester) is required up to and including the Thesis Proposal phase. Certain students are legally required to maintain Full-time status for the entire duration of the program (e.g. international students on a visa).

See Graduate Student Handbook (available online) for additional details and regulations.

§ *Game Plan, Qualification, Proposal, & Dissertation* For details and regulations about the Game Plan, Qualification, Proposal and Dissertation processes please see the Graduate Student Handbook (available online).

** *Expected Effort* is an approximation, and is not to be considered a Residency requirement.

