

MSBPD

Master of Science in Building Performance & Diagnostics



1 Fall 1st Year (39 units)

Core: (24 units)

Building Performance Modeling (12)

Productivity, Health & the Quality of Buildings (12)

Computing: (9 units)

Principles of Computing (10)

Selectives: (6 units)

Refer to List (6)

Program Description:

The Master of Science in Building Performance & Diagnostics (MSBPD) is a two-year program intended for practitioners, researchers, and educators in architecture and the building industry who wish to be leaders in advanced building technologies and their performance. This is a research-based degree, designed as a stepping stone to PhD-level education.

Admitted students may apply for advanced standing based on previous coursework or professional experience, eliminating the first semester. Advanced standing is also available to qualified CMU students within the B.Arch program through the Accelerated Master's Program (AMP).

2 Spring 1st Year (39 units)

Core: (9 units)

Performance of Advanced Building Systems (9)

Computing: (9 units)

Intro to Data Structures (10)

Selectives: (12 units)

Refer to List (12)

Electives: (9 units)

Program Requirements:

In addition to the standard requirements for all graduate students in the School of Architecture, students in the MSBPD program must satisfy the following:

- Students must complete a minimum of 150 units of course work for graduation.
- Students must complete a minimum residency requirement of three (3) academic semesters.
- Full-time status (minimum 36 units per semester) is required during the residency period.
- Core and computing course substitutions must be approved by the program Track Chair.

3 Fall 2nd Year (39 units)

Core: (12 units)

Experimental Design for Behavioral and Social Sciences (12)

Project: (18 units)

Masters Project (18)

Electives: (9 units)

Fall Selectives:

- Engineering Economics (6)
- Introduction to Sustainable Engineering (12)
- Data Acquisition (6)
- Data Management (6)
- Mechanical & Electrical System Design for Buildings (6)
- Special Topics in BPD: Ecological Footprint (6)
- LEED, Green Design and Building Rating in a Global Context (6)
- Geographic Information Systems/CAFM (12)

4 Spring 2nd Year (36 units)

Core: (12 units)

Building Controls & Diagnostics (12)

Project: (18 units)

Masters Project (18)

Electives: (6 units)

Spring Selectives:

- Environmental Life-Cycle Assessment (12)
- Mathematical Modeling of Environmental Quality Systems (12)
- Computer-Based Approaches for Search & Decision Support in Civil Infrastructure (6)
- Fundamental Data Structures & Algorithms (Pre-Req's are 21-127 & 15-121) (12)
- Energy System Modeling (12)
- Special Topics in BPD (9-12)
- Zero Energy House (9)