Master of Science in Sustainable Design

MSSD – Advanced

Pre-Requisites:
- Summer Online: (3 units)
  48-689 | Digital Skills Workshops (3)
- Pre-Requisite: (9 units)
  48-635 | ES 1: Climate & Energy (9)

1 Fall 1st Year (45 units)
Core: (30 units)
- 48-620 | Graduate Seminar: Situating Research (3)
- 48-733 | Environmental Performance Simulation (9)
- 48-783 | Generative Modeling (9)
- 48-798 | HVAC & Power Supply for Low-Carbon Buildings (9)

Selectives: (3 - 15 units)**

Program Description:
Centered on architecture’s response to climate change, the Master of Science in Sustainable Design is a post-professional research-based graduate program focused on expanding innovative design methodologies that position the built environment as a vehicle of environmental stewardship. Situated at the intersection of technology, environmental science, advanced manufacturing, computational design and analysis, the MSSD program leads students to discover new socio-ecological approaches to regenerative, evidence-based design frameworks that operate across scales. This is a 4-semester program that welcomes applications from both research and practice-oriented candidates.

Program Requirements:
In addition to the standard requirements for all graduate students in the School of Architecture, students in the MSSD program must satisfy the following:
- Students in the 4 semester track (MSSD - Advanced) must complete a minimum of 159 units of coursework with a minimum residency of three (3) academic semesters at full-time status (36 units).
- For AMP students or candidates with greater than eight years of design practice experience this degree can be achieved in 3 semesters (MSSD - Applied) by completing a minimum of 135 units of coursework with a minimum residency of two (2) academic semesters at full-time status (36 units).

Optional Summer: (3 Units)
48-700 | Practicum (3)
NB: F1 students must file for CPT

2 Spring 1st Year (45 units)
Core: (15 units)
- 48-711 | Paradigms of Research in Architecture (6)
- 48-722 | Building Performance Modeling (9)

Selectives: (12 - 30 units)**

3 Fall 2nd Year (45 units)
Core: (24 units)
- 48-743 | Intro to Ecological Design Thinking (9)
- 48-729 | Productivity, Health & the Quality of Built Environment (9)

Synthesis Thesis Project (12~18 Units)*
48-731 | MSSD Synthesis Prep (12~18)
Selectives: (12 - 18 units)**

4 Spring 2nd Year (24 units)
Core: (24 units)

Synthesis Thesis Project (24~18 Units)*
48-732 | MSSD Synthesis (24~18)
Selectives: (12 - 18 units)**

Changes to curricular offerings take place regularly. Visit the CMU Schedule of Classes for up-to-date information.

A full list of selectives is available from the Track Chair. The pre-approved examples of Selectives include:

Cat 1 | METHODS: Computation, Analytical Tools & Data Modeling
- 48-724 | Scripting and Parametric Design
- 48-755 | Introduction to Architectural Robotics
- 27-406 | Sustainable Materials

Cat 2 | IMPACT: Environmental Ethics, Code & Policy
- 48-713 | Urban Ecology
- 48-795 | LEED, Green Design & Building Rating

Cat 3 | DESIGN and OPERATIONS: Ecological Design & Sustainable Development
- 62-715 | Shaping Built Environments
- 70-373 | Sustainable Operation

10 August 2022