M.S. Sustainable Design

College of Architecture & the Built Environment
Rob Fleming, AIA, LEED AP
MS in Sustainable Design Program

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Presentation Overview

- College and Campus Information
- Program Description
- Plan of Study
- Faculty Profiles
- Outcomes
- Job and Internship Opportunities
- Professional Associations
- Program Highlights
- Research Areas
- Graduate Assistantships
- Admissions
Locational Advantage

• Green campus, close to Center City and many amazing communities

• Strong relationships with the community and industry partners

• Philadelphia as our living lab
Emphasis on Teaching

• Student-centered education
• Small class sizes
• Personal attention
• Academic Success Center
• Writing assistance
• Faculty academic advisors
Nexus Learning

ACTIVE, COLLABORATIVE

REAL-WORLD

INTERDISCIPLINARY PROJECTS
The MS in Sustainable Design Program

- Most programs start with design and then add sustainable elements leading to green solutions.
- The MSSD Program features a "Sustainability-First" approach where "great design is an intrinsic part of sustainable design".
- We are a transdisciplinary, forward-looking degree that trains students to become leaders in the fight against climate change.
MS in Sustainable Design Program - Student Profile

PROGRAM DESCRIPTION
MS in Sustainable Design Program - Student Profile

- Architects
- Web Designers
- Developers
- Interior Designers
- Sociologists
- Industrial Designers
- Builders
- Philosophy
- Landscape Architecture
- English Majors
- Urban Planners
- Music/Theater
- Entrepreneurs
- Project Managers

PROGRAM DESCRIPTION
The MS in Sustainable Design starts with sustainability and moves into design.
Bill Reid’s
The 4 E’s of Sustainable Design + 1 “E”

Everyone Engaging Everything Early With Equity

PROGRAM DESCRIPTION
MS in Sustainable Design Program

COURSE CONTENT: On-Campus Program

Resilient Communities (12 Credits)
- SDN 601 Principles and Methods for Sustainable Design (3 CR)
- SDN 602 Adaptive Design (3 CR)
- SDN 609 Building Info Modeling for Sustainable Design (3 CR)
- SDN 621 Design of Resilient Communities (4 CR)
- SDN 623 Exploring Landscapes (2 CR)

Living Buildings or free electives (12 Credits)
- SDN 604 Green Materials and Life Cycle Assessment (3 CR)
- SDN 604 Sustainable Design Studio (4 CR)
- SDN 624 Sustainable Systems for Studio (2 CR)
- SDN 900 Thesis I in Sustainable Design Or Elective (3 CR)
- SDN 901 Thesis II in Sustainable Design Or Capstone (6 CR)

Other Options: Sustainability Leadership, Geo-Design, Real Estate, and more.

Total Credits: 33 Credits
# MS in Sustainable Design Program

**COURSE CONTENT: On-Line Program**

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<th>Fall 1</th>
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Mastery, Evaluation Communication |
| SDN 602 Adaptive Design (3 CR) | SDN 623 Exploring Landscapes (2 CR) |                                   | SDN XXX Elective in Sustainable Design Or Elective (3 CR) | SDN 624 Sustainable Systems for Studio (2 CR) |  |

- **Resilient Communities** (12 Credits)
- **Living Buildings** (12 Credits)
- **Capstone** (12 Credits)
On Campus or Online

• MSSD On Campus
  • Day and evening courses available on campus/hybrid from faculty composed of experienced full-time professors and adjunct professors, who are practitioners with diverse backgrounds in a wide array of sustainable design projects
  • Students are exposed to hands-on experience through our collaborative, transdisciplinary Studios and thesis projects

• MSSD Online
  • A convenient and flexible 100% online degree
  • Studio Courses are a live and require attendance in the evenings
  • For lecture courses, students watch lectures live or watch the recordings and complete required tasks (assignments, quizzes, etc.)
An established sustainable design degree

- Jefferson’s MSSD Program Received National Awards from
  - United States Green Building Council and the
  - National Institute of Building Science
Plan of Study

- 33 credit hours
- Full or part time
- Courses are delivered on-campus, hybrid, and online
- Most students complete the program in 24 months
Required Sustainable Design Courses

• The Core Courses
  • SDN 601 (Fall) Principles and Methodologies for Sustainable Design
  • SDN 602 (Fall) Adaptive Design
  • SDN 900 Thesis/Capstone in Sustainable Design
Required Construction Management Courses

• The Certificates
  • Living Buildings
  • Resilient Communities
  • Sustainability Leadership
  • Green Building Operations
Required Sustainable Design Courses

- Selected Electives
  - Revit
  - Life Cycle Assessment and Green Materials
  - Environments for well-being - Biophilia
Rob Fleming
Professor and Director, MS in Sustainable Design Program

AUTHOR

• Sustainable Design Basics
• Sustainable Design for the Built Environment
• Space Planning Basics
• Design Education for a Sustainable Future

COURSES

• Principles and Methodologies for Sustainable Design
• Ecological Design Studio
• Sustainable Design Studio
Robert Fryer
RA, LEED AP BD+C, NCI
Associate Professor, MS Sustainable Design Program
College of Architecture and the Built Environment

Research
Systems thinking as a design tool, high performance envelopes, sustainable design of senior care facilities

COURSES
• SDN 602 Adaptive Design
• SDN 621 Resilient Communities
• SDN 628 Capstone
• SDN 900 + 901 Thesis sequence
Adjunct Faculty from Industry

- Rachel Ahern  Landscape Architect, Green Infrastructure
- Ashley DiCaro  Landscape Architect and Planner
- Anna Huttel  Architect, High Performance Design
- Jim Mellentine  Engineer, Life Cycle and Circular Economy
- Rebecca Parish  Certified Revit Instructor
- David Rouse  Planner, Ecological
- Frank Sherman  Architect, High Performance Buildings
- Janki Vyas  Architect, High Performance Design
- Natalie Walker  Engineer, Life Cycle Assessment and Carbon Accounting
- Cara Watson  Engineer, Life Cycle Assessment and Carbon Accounting
- Max Zahniser  Architect, Regenerative Design
Job and Internship Opportunities

• Strong integration with the Sustainable Design community in Philadelphia and the tri-state area via local non-profits, Adjunct Professors, and the reputation as one of the best sustainable design programs in the country.

• Most students are able to find a summer internship and almost all of our students have found positions in companies after graduation.

• Many of our international students have received STEM extensions and Sponsorships.
• United States Green Building Council
• Green Building United
• International Living Futures Institute
The top three highlights of the MSSD Program

- Authentic and deep sustainability educational
- Transdisciplinary Learning
- Graduates go on to great jobs with lots of impact
MSSD Research Areas

- Systems thinking as design tool
- High performance envelopes
- Sustainable design of senior care
- Net-Zero design methodologies
Graduate Assistantships

- Through the Graduate Assistantship Program, the University awards a limited number of annual graduate assistantships to new applicants on the basis of exceptional scholastic achievement; outstanding professional promise; and competence for service in the departments of the University.

  - [https://www.eastfalls.jefferson.edu/financialaid/Graduate/assistantships.html](https://www.eastfalls.jefferson.edu/financialaid/Graduate/assistantships.html)
Graduate Assistantships - CABE

- Scholarships and assistantships available to all new and eligible applicants:
  - University Graduate Student Assistantships
  - CABE Teaching Assistantship & Research Assistantship
  - Dean’s Scholarship
  - International Institutional Partnership Scholarship
- Check out: Jefferson’s Web Page > Academics > College of Architecture & the Built Environment > Student Resources > Graduate Scholarships & Assistantships
Admission Requirements

- Completed Application for Graduate Admissions
- Official Academic Transcripts
- Current Resume/CV
- 2 Letters of Recommendation*
- Personal Essay**

- GRE is NOT required

* Recommendation letters can be emailed directly from your recommenders (there is no form required)
**The essay should tell us a little about yourself, your interests in our program and goals as a potential student. Essays should be no more than two pages in length.
• Apply Online through the MCM Web Page and Jefferson’s Office of Graduate Admissions
• You can email GradAdm@Jefferson.edu for admissions-related questions.
• You can email Gulbin.Deniz@jefferson.edu for academic questions.