

# M.S. Sustainable Design

College of Architecture & the Built  
Environment



# Rob Fleming, AIA, LEED AP

MS in Sustainable Design Program



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Jefferson

CREATE WHAT'S NEXT

# 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

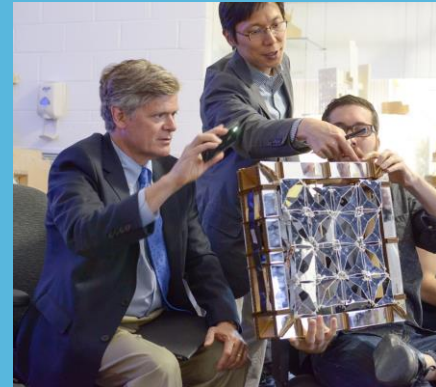
- Green campus, close to Center City and many amazing communities
- Strong relationships with the community and industry partners
- Philadelphia as our living lab



# Emphasis on Teaching

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

## COLLEGE AND CAMPUS INFORMATION



# 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



Philosophy

Web Designers

Landscape Architecture

Architects

English Majors

Developers

Urban Planners

Music/Theater

Interior Designers

Sociologists

Entrepreneurs

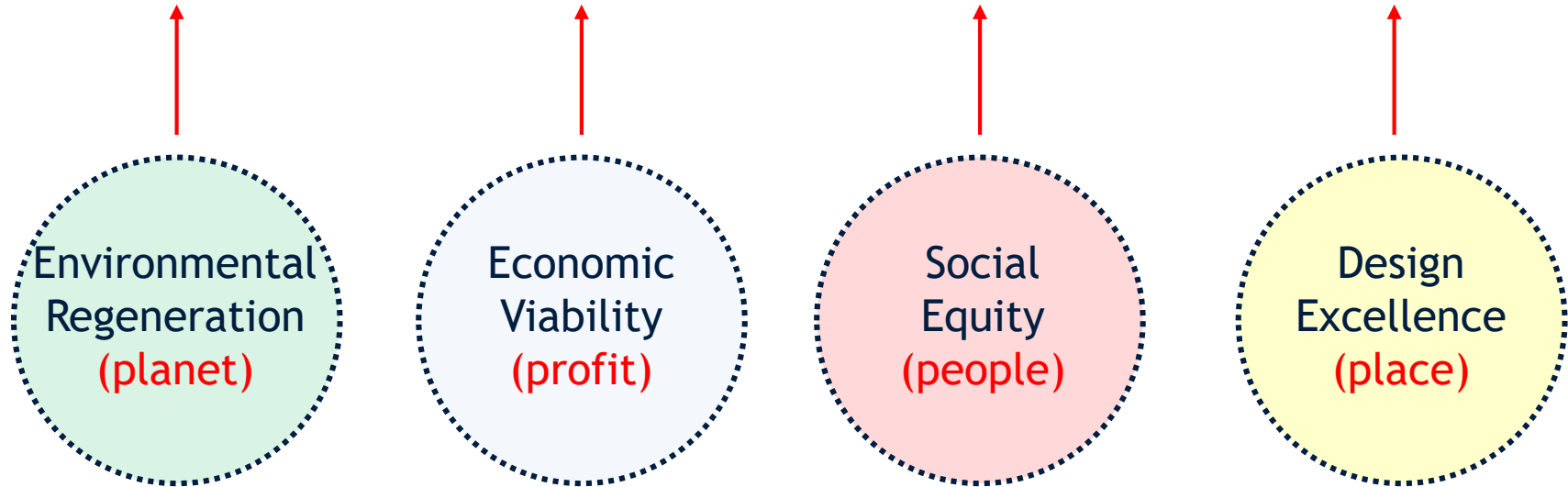
Industrial Designers

Builders

Project Managers



# SUSTAINABLE DESIGN



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



MS in Sustainable Design  
Program  
**COURSE CONTENT:**  
**On-Campus Program**

**Resilient  
Communities  
(12 Credits)**



**Fall 1** (9 CR)

SDN 601  
Principles and  
Methods for  
Sustainable  
Design  
(3 CR)

SDN 602  
Adaptive  
Design  
(3 CR)

**Spring 1** (9 CR)

SDN 621  
Design of  
Resilient  
Communities  
(4 CR)

SDN 623  
Exploring  
Landscapes  
(2 CR)

**Fall 2** (9 CR)

SDN 900  
Thesis I in  
Sustainable  
Design  
Or Elective  
(3 CR)

**Spring 2** (6 CR)

SDN 901  
Thesis II in  
Sustainable  
Design  
Or Capstone  
(6 CR)

Mastery, Evaluation  
Communication



**Thesis or  
Capstone  
(9 Credits  
Total)**

**Living Buildings  
or free electives  
(12 Credits)**



SDN 609  
Building Info  
Modeling for  
Sustainable  
Design  
(3 CR)

SDN 604  
Green Materials  
and Life Cycle  
Assessment ( 3 CR)

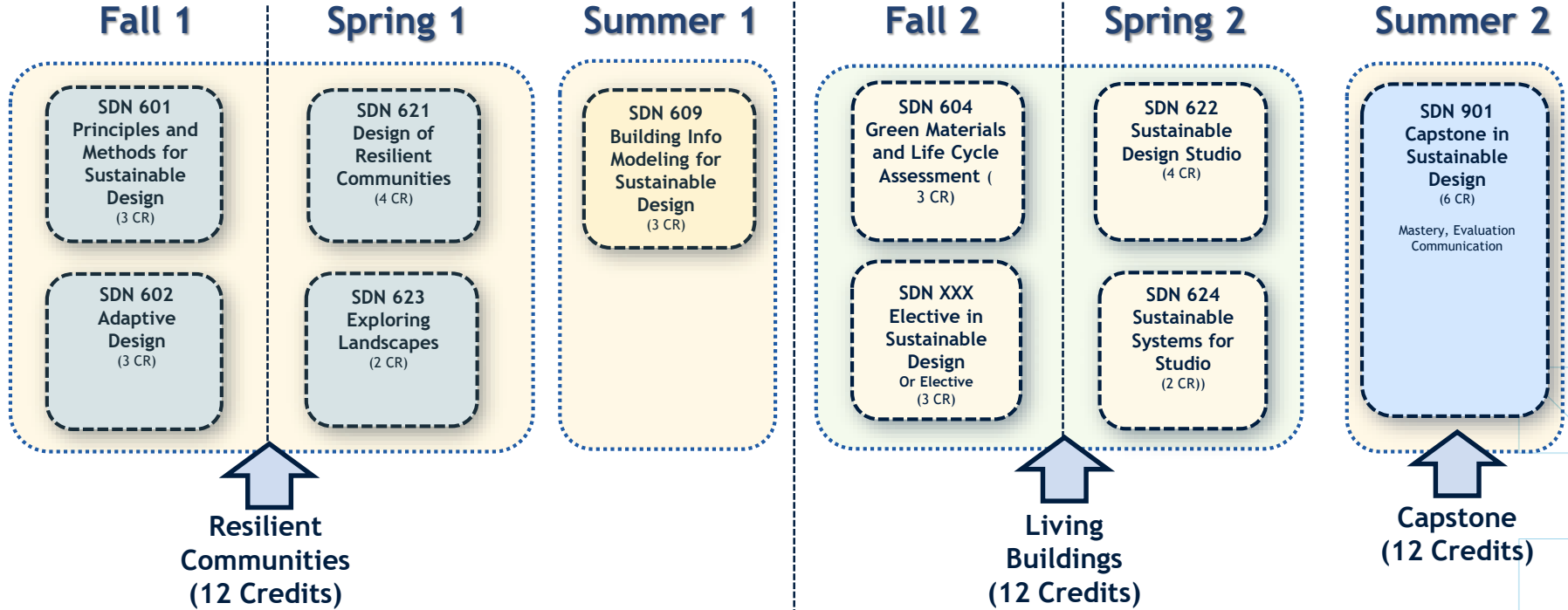
SDN 622  
Sustainable  
Design Studio  
(4 CR)

SDN 624  
Sustainable  
Systems for  
Studio  
(2 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**



# 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



National Institute of  
BUILDING SCIENCES

# Plan of Study

- 33 credit hours
- Full or part time
- Course 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

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

## COURSES

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- 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

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- 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





**Gensler**



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Paladino 





# ARUP

**Pennoni**

AKF

db | HMS

 **LUTRON®**



Jefferson

CREATE WHAT'S NEXT



GREEN  
BUILDING  
UNITED



THE CITY OF PHILADELPHIA  
MAYOR'S OFFICE OF  
SUSTAINABILITY



**Berkeley**  
UNIVERSITY OF CALIFORNIA



# 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>
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# 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](#)
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# 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.

# Applications

ADMISSIONS

Jefferson University Website Navigation and Content:

- Navigation Bar: Jefferson Advantage, Academics, Admissions, Tuition & Financial Aid, Life at Jefferson, Search, Nexus
- Main Content Area:
  - COLLEGE: East Falls Campus, College of Architecture & the Built Environment
  - DEGREE EARNED: Master of Science
  - PROGRAM TYPE: On Campus, Online, Hybrid
- Buttons: Apply, Request Info

- Apply Online through the [MCM Web Page](#) and [Jefferson's Office of Graduate Admissions](#)
- You can email [GradAdm@Jefferson.edu](mailto:GradAdm@Jefferson.edu) for admissions-related questions.
- You can email [Gulbin.Deniz@jefferson.edu](mailto:Gulbin.Deniz@jefferson.edu) for academic questions.



**Jefferson**  
Thomas Jefferson University