



SUSTAINABLE SYSTEMS MASTER OF SCIENCE

BECAUSE SYSTEMS THINKING, ECOLOGICAL PRINCIPLES, AND TECHNOLOGICAL CAPABILITIES CAN DRIVE A SUSTAINABLE FUTURE.

Depletion of fossil fuels. Global warming. Water scarcity. Loss of biodiversity. Modern environmental challenges like these impact both developed and developing nations, and they are compounded by increasing consumption pressures and a growing global population. The world needs innovative leaders who can help solve these complex problems and address basic human needs such as mobility, shelter, water, food, and communication, in a more sustainable manner.

The Sustainable Systems (SusSys) specialization focuses on systems thinking with a sound understanding of ecological principles, the capabilities of technology, and the mechanisms that reshape economic and social progress.

WHY SUSSYS?

- Gain expertise in systems-analysis techniques with a wide range of applications, including renewable energy, water infrastructure, green construction, sustainable mobility and food systems.
- Develop the critical skills of systems thinking and systems-dynamics modeling and apply them to the challenges of global environmental and social change.
- Deepen your understanding of institutions that govern energy use and explore ways in which government and industry policy have succeeded—or failed—in order to transform energy systems and influence consumer choices, and ultimately to reduce carbon emissions.

BOLD LEADERS

MARYAM ARBABZADEH (MS '17)
**HEAD OF SCIENCE AND DATA,
CLIMATIQ**

"To be good at sustainability, you need to be interdisciplinary. SEAS offers that."



ERIK ANDERSON (MS '23)
**ENERGY SYSTEMS ENGINEER,
PACIFIC NORTHWEST NATIONAL
LABORATORY (PNNL)**

"My time at SEAS has helped me to flourish in my career as an energy systems engineer at PNNL. The coursework I completed provided me with a multidisciplinary understanding of energy systems and has empowered me to do work in both a technical and non-technical capacity to make change."



MARWAN CHARARA (MS '18)
**SENIOR MANAGER,
PATTERN ENERGY GROUP**

"I've wanted to work in this field because it gives you a purpose. You know that you're part of something bigger than you."



MASTER'S PROJECTS

Part of the culminating experience of your program is a master's project or master's thesis, where you will work with an external client to solve real-world problems. Recent projects include:

Digital Waste "State of Waste" (Detroit, Michigan)

Client: Detroit Dirt

Advisor: Sara Soderstrom

A Circular Economy for Energy Materials (Golden, Colorado)

Client: National Renewable Energy Laboratory

Advisor: Michael Craig

Greenhouse Gas Inventory and Corporate Climate Strategy for Ocean Spray Cranberries, Inc. (Lakeville-Middleboro, Massachusetts)

Client: Ocean Spray Cranberries Inc.

Advisor: Greg Keoleian



COURSE SAMPLING

- Environmental Systems Analysis
- Industrial Ecology
- Deep Decarbonization
- Sustainable Urban Systems

WANT MORE INFO?

seas-admissions@umich.edu



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FACULTY

- Michael Craig
- Benjamin Goldstein
- Greg Keoleian
- Thomas Lyon
- Shelie Miller
- Joshua Newell
- Tony Reames
- Sara Soderstrom
- Parth Vaishnav
- Charlene Zietsma

BUILD A REWARDING CAREER WITH IMPACT

No matter your path, SEAS Career Services helps prepare you for a purpose-driven career that's right for you. Our career counselors provide guidance on all aspects of career development, from resumes and cover letters to job searches and interview preparation. Plus, we connect you with employers and alumni who can help you imagine the possibilities of where your degree will take you.

SusSys graduates work as:

- Product developers
- Consultants
- Sustainability planners

Here are just a few of the employers who hire SusSys graduates:








NATIONAL RENEWABLE ENERGY LABORATORY



