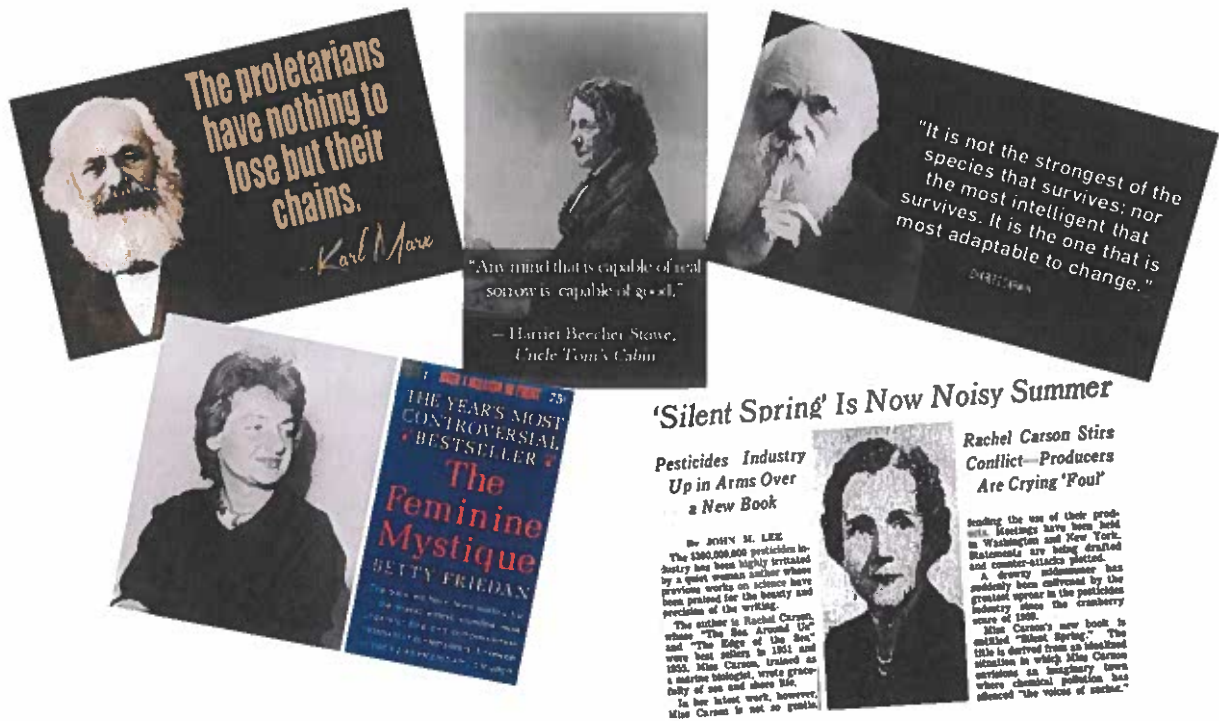


# SIX BOOKS THAT CHANGED THE WORLD



Marx. Stowe. Darwin. Friedan. Carson.

Authors, visionaries, world changers.

What did they achieve? How did they do it? Why?

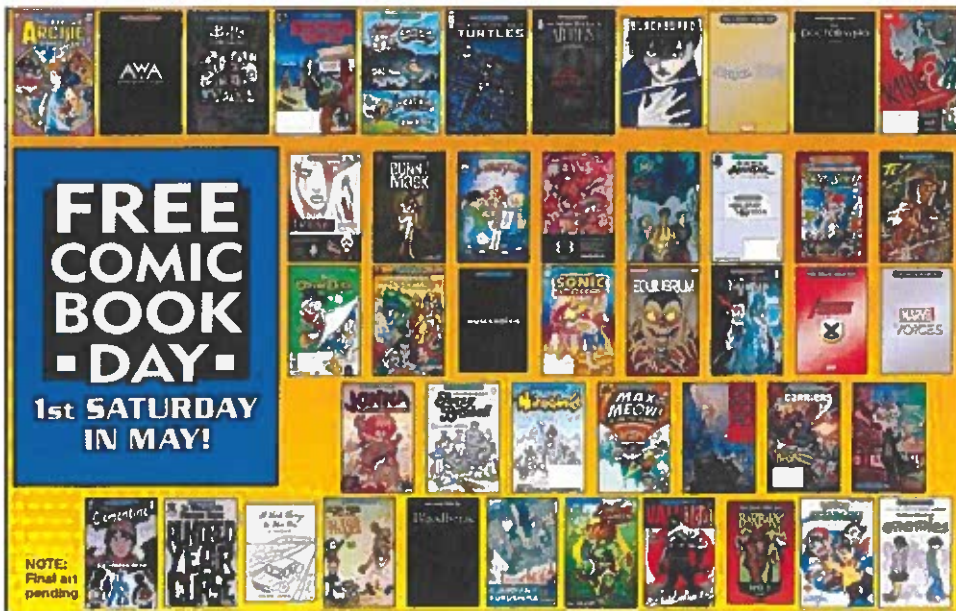
And if you could add one book to this list, what would it be?

AHSE2112

A Rob Martello production

Two credits (AHS)

Fall 2025, half semester



# FRAMING HISTORY THROUGH COMICS

ROB MARTELLO

In "Framing History Through Comics" we will explore how comics make history. Ask yourself - what would you choose as the most impactful comics and graphic novels of all time? We will also explore how certain comics portray history, using all the tools of art and literature. We will study a selection of classic graphic novels in different genres such as biography, autobiography, history, superhero, activism, children's fiction, and others. As we analyze the dynamic space where prose meets art, we will also learn how comics reflect their historical context while impacting so many aspects of our society in return.

AHSE 2116  
→

**Fall 2025**  
**2 AHS Credits**

We'll enjoy comics and graphic novels in many genres – superheroes, biographies, children's literature, novel adaptations, and more

We'll use the amazing book "Understanding Comics" to understand the many tools used by comic artists and writers.

You get to design your own final assignment and can shape the direction of our course through feedback and student-controlled final class sessions.

**AHSE 2199**

Framing History  
Through Comics

Questions?

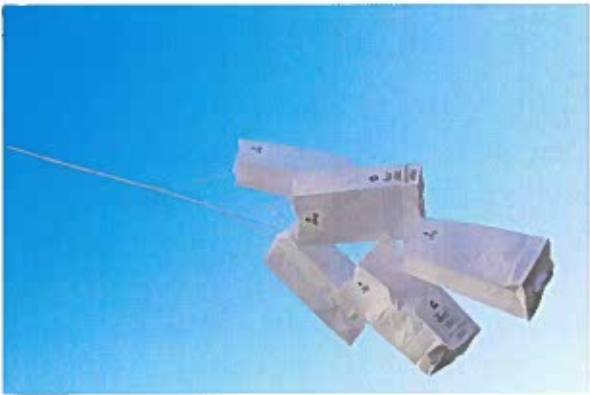
[rmartello@olin.edu](mailto:rmartello@olin.edu)

# Digital Photography: Seeing is Believing

## AHSE 2135 Fall 2025

with Professor Helen Donis-Keller

Student work from the Digital Photography courses below:



### Do you have something to say?

This course provides an opportunity to develop a visual vocabulary and communicate your ideas using digital photography as the medium of choice.

- Personal creative work that has a project-based structure
- Fine art photography projects
- Nature, wildlife, and/or urban image making, depending on your interest
- Use photography to promote activism projects
- Digital editing and printing of images
- Field trips to galleries and museums
- Self-defined final project

**Prerequisites:** **None.** Students that have zero experience with digital single-lens reflex (DSLR) cameras or photography in general are encouraged to enroll. Students with any level of photography experience are enthusiastically welcomed too.

**Credits:** 4 AHSE All equipment and supplies are provided

**Questions?** [Helen.Donis-Keller@Olin.edu](mailto:Helen.Donis-Keller@Olin.edu)



## Potential AHS Electives with Caitrin Lynch

### Work and technology

This course includes case studies from today and in the past. It focuses on how workers engage with and make sense of technology: does it make lives easier, lead people to question their skills, or provide or detract from the meaning one might find in work? Examples include textile machinery in the Industrial Revolution, the fax machine, robotic caregivers, and AI in the field of radiology. The course is primarily centered in the Anthropology of Work and considers perspectives from other AHS disciplines.

### Global apparel industry

This course includes contemporary and historical examinations of clothing, considering cross-cultural questions about style, function, manufacturing, and environmental and social impact. It likely includes fieldwork experiences related to clothing in students' daily life. Caitrin has been teaching and doing research on textiles and garments for a long time, and this would be like a revival of the AHS Foundation course called Dirt to Shirt, but for non-first years.

### Artificial Intelligence and Society

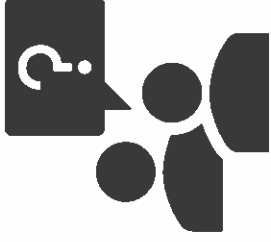
Caitrin taught a class on this a couple of years ago with Victoria Dean and Paul Ruvolo. In fall 2024, Lynn Andrea Stein created an AHS Foundation version. This class builds on those, and includes consideration of impacts on work, education, healthcare, and more—from a nuanced perspective that is neither entirely pessimistic nor entirely techno-optimistic.



Caitrin is an anthropologist on leave at the Robotics and AI Institute. Caitrin plans to offer one AHS elective course this fall. Many ideas are on the table, and she'd like to hear what interests you.

AHSE 2199

# What is... **THE CURRICULAR DESIGN COURSE?** **THE CURRICULAR DESIGN COURSE?**



**Two credits? Four credits? Fifteen credits?** (OK, not that last one. But the credits will be **AHS**.)

**Taught by Rob? Sam? Ben? Alessandra? Florence Pugh? All of them?** (No, Florence is kind of busy.)

**Should we call it “The curricular design course?” “Co-creating cool curricula?” “Cacophony of capricious chaos?”** (You know, this time I do like that last option. What do you think?)

**Is this related to the exciting curricular revision, soon to be shared with the Olin community by the above-mentioned faculty?** (Clearly this is a self-serving question. I will not dignify it with a response.)

If you are interested in joining a co-creation activity that hearkens back to Olin’s famous “partner year,” and are interested in imagining, co-designing, testing, and modifying new courses, modules, and other curricular elements, please indicate your interest on the course survey... and join the fun!

# Fiction Gets Real.

1 Gillian. 4 AHS Credits. Infinite Fun. Fall 2025.



*"Can you give me a hand moving these?"*

***Fiction Gets Real is back...and bigger than ever! Join us for a 4-credit adventure connecting the stories we read to the stories we live.***

Ever read a work of fiction you couldn't forget? Ever think about how that story impacted or changed you? Ever wonder what story deeply matters to someone you know? Then come join us on the fabulous adventure of making analytical and creative connections between the fiction we read and the ways we narrate and shape our lives.

Connect with yourself and your Olin community through the stories that stick with us.  
*The course features...*

- **Special guests!** Olin faculty, staff, alumni, or other Olin-affiliated guests share stories that stuck with them.
- **In-Class Readings!** With cookies!
- **Analytical and Creative Exploration!** We will use analytical and creative ways to explore excerpts from selected fiction and apply them to our own life stories.
- **The chance to read *outside* your comfort zone!** We will read excerpts from works of fiction chosen by our special guests...
- **The chance to invite someone *into* your comfort zone!** The class will upvote works of fiction that matter to YOU and dream up creative ways engage with the people's choice.
- **Teamwork!** You will team up to create fabulous, creative opportunities for your classmates to engage with a story that stuck with YOU!

# MassArt + Olin

## Thoughtful Objects Form to Fire

ENGR 2299

Semester Fall 2025  
Credits 4 ENGR  
Level Intermediate Design Elective  
Location MassArt (and Olin)  
Time Wed 3-8 PM  
Grading Effort based (attendance and participation)

## Thoughtful Objects: Form to Fire

This intermediate design elective explores fabrication through a collaboration with the Fine Arts 3D and Industrial Design departments at MassArt. Students from all three disciplines work together using the MassArt mold making studio, metal shop, hot shop, and cold shop in combination with CAD modeling, 3D printing, plasma cutting, water jet cutting, and laser cutting as tools for experimentation and production exploring their creative potential. Emphasis is on the development of new processes that combine iterative form development with digital fabrication and studio production techniques. Students will meet at MassArt on Wednesdays from 3:00-8:00 PM. Transportation costs will be covered by the course, and students do not need access to a car to participate, although it helps.

Can be used in E:Design concentrations (not Design Depth)



# Environmental Analysis and Science (EAS)

SCI 2310 OR ENGR 2810

Scott Hersey



Do you want to gain experience with community-engaged environmental analysis for impact? Are you interested in learning quantitative approaches to analyzing environmental systems? Curious how environmental data are collected and analyzed with lab instrumentation and software packages? Want to gain experience translating environmental insights into actionable steps for non-expert stakeholders like elected officials, advocacy groups, and residents? If you answered yes to any of those questions, you'll find a home in Environmental Analysis and Science (EAS)!

## EAS At a Glance

- Choose 4 credits of: SCI, ENGR, or Intro to Sustainability;
- 3 main course sections: a) Air quality analysis and insights for community partners in Boston, b) Water quality analysis for Boston's Muddy River with partners CRWA, and c) Soil contamination analysis for partners in Boston;
- Activities include air quality data analysis and insight generation in R, water sample collection in the field, analysis of water samples in the laboratory, soil sample collection and laboratory analysis, written and oral communication of analysis insights to diverse audiences, and in-class data workshops;
- Meets twice per week for 100 minutes.





FALL 2025

# Tell The Story OF WHAT YOU MAKE

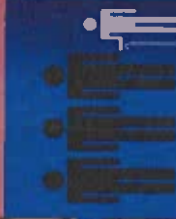
4 Credit - ENGR Prereq - CD



ENGR 3240

How do engineers creatively engage with multiple audiences and stakeholders for their work? Telling stories is critical for anyone who makes things: communicating technical work to non-experts, creating persuasive arguments for technology adoption, or projecting a future with better engineering in it.

This course will cover how stories are built and how to use critique to make those stories better. The course includes short experiments in storytelling, lot's of critique, and a culminating project.



We'll look at how music videos, feature length films, advertisements, packaging, clothing labels and even people's outfits (just to name a few) can inform how you might build an effective story about one of your own projects.

# ENGR 3260: Design for Manufacturing

In the process of creating a new product, device or system, a "proof of principle" prototype is built to demonstrate both that such an object can be built and to test how well it works. At a practical level, in the process of creating this prototype, many sub-optimal design concessions are made in the choices of components, cost and functionality in order to meet prototyping time and budget constraints. Upon the completion and successful testing of a prototype, the next phase in the design stream required to bring the product, device or system to a final user or market, is to re-design the prototype such that it can be manufactured at both an acceptably low price point and at an acceptably high enough level of quality to give enduring value to the final end user.

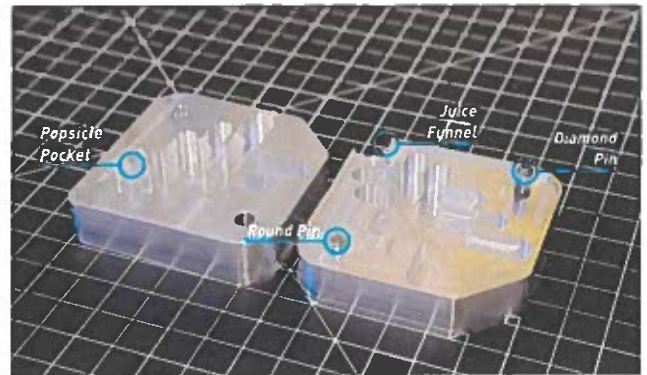
Course Instructor:

Daniela Faas ([daniela.faas@olin.edu](mailto:daniela.faas@olin.edu)).

Email with any questions!



Design for Manufacturing will build the specialized design skills needed to professionally redesign a prototype in order to meet target price, reliability and functionality goals, whether the final market requires a single unit per year (i.e. space systems, like satellites) or fifty thousand units a week (i.e. consumer products). This course will be heavily team and project based and will involve the re-design for manufacture of several products, devices and services at the discretion of the instructor. The overall course projects will incorporate a significant mechanical, electronic and software components (but perhaps not all three in any one project) and will be drawn widely from the consumer, industrial, and sustainable market sectors. Course will potentially involve field trips to manufacturing facilities and invited "DFM" lecturers as appropriate to support the particular projects offered in a given semester.





# DESIGN JUSTICE STUDIO

Formerly called Affordable Design and Entrepreneurship (ADE)

## MISSION

Inspire and prepare students to work with people in communities to address social and environmental justice challenges.

ENGR 3290 - Olin College – **DESIGN DEPTH**

ENGR 4290 - Olin College – **CAPSTONE**

EPS 4515 - Babson College

Offered: Fall, Spring

Prerequisites: ENGR 2250 for Olin Students; Junior or Senior standing

## COURSE DESCRIPTION

This course engages students in community-based, participatory design and action. Teams partner with communities and organizations to achieve positive social and environmental impact with a strong justice framing, working for change in areas like air quality, community development, food processing, global health, and just energy over several semesters.

Guided by an experienced faculty advisor, teams make change through design for impact, social entrepreneurship, community organizing, participatory research, political advocacy and other practices. Teams work using theories of change, assumption testing, power analysis, dissemination of innovation, and ethical norms. Students regularly engage primary parties in inclusive processes, in person and virtually, to observe, strategize, plan, co-design, prototype, test, and implement approaches supported by a significant project budget. There are often opportunities to travel locally, nationally, or internationally to work with partners. Students are exposed to mindsets and dispositions for working with integrity and responsibility in their primary-party contexts through guided exercises, case studies, guest speakers, readings, and reflections. Students learn and apply changemaking practices through project work, and gain essential experience building relationships across difference and developing their own self- and cultural awareness.

## LEARNING OBJECTIVES

1. Identify principles and examples of practices that are primary-party-centric, participatory, community-based, and accountable to communities and collaborators.
2. Engage across differences and power imbalances to build trust and productive working relationships with primary parties and collaborators.
3. Reflect on personal and professional obligations and identity development in ways that connect course activities with longer-term life and career goals.
4. Articulate and iterate a theory of change for working for justice in a specific context.
5. Test assumptions that underlie a theory of change in order to help determine how to advance and de-risk a project.
6. Engage in design and strategy development to create or evolve a plan to ensure the sustainability of a project.
7. Take responsibility for and apply a diverse set of practices that foster team health.



# DESIGN JUSTICE STUDIO

## DJS TRACKS

There are 5 tracks in DJS with a team working in each area. All teams share broader change-making practices, including theory of change, assumption testing, power analysis, dissemination of innovation methods, and ethical norms. And each team has its own particular practices for making change, which are typically a combination of community organizing, public policy advocacy, participatory research, design for impact, and social venturing.



### Air Quality — Massachusetts

Reducing the burden of air pollution in near-source communities by building awareness and capacity for agency.



### Community Development — Miss, Mass

Creating equitable access to hands-on learning for 9-15 year-olds that build self-confidence, invite creative self-expression, and inspire community action, catalyzing cycles of success to disrupt structural exclusion



### Food Processing — Ghana

Creating mini post-harvest processing machines accessible to women to reduce gender inequality, increase local food security, reduce burden, and grow small businesses.



### Global Health — Americas

Increasing early access to hearing screening devices to enhance immediate well-being of children and improve their overall life outcomes.



### Just Energy — Mass, United States

Enabling community-based renewable energy and supporting energy-related autonomy for Indigenous peoples through Just Transition principles.



## ENGR 3499 Special Topics in ECE: Image Processing, Reconstruction and Analysis

**Instructor:** Chhavi Goenka

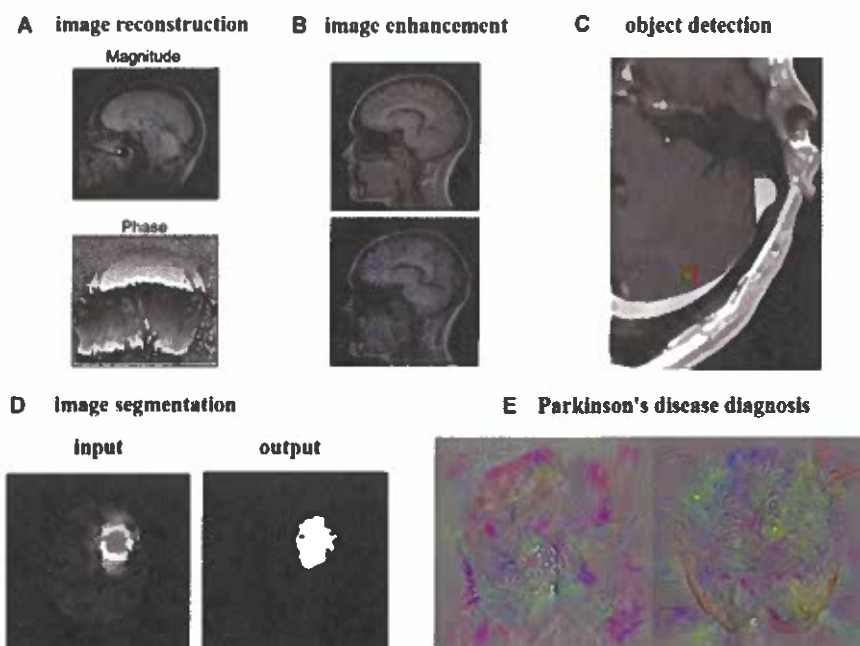
**Credits:** 4 ENGR **Hours:** 4-0-8

**Prerequisite:** ENGR 2410 Signals

*This course can be used as a **designated alternative** to the ENGR3415 (DSP)/ENGR 3420 (ADC) requirement for the ECE major. If taken in addition to DSP or ADC, it may be used as the ECE elective course.*

Imaging, imaging algorithms and imaging systems are being used every day to analyze and interact with the world around us, from facial recognition to medical data collection, from search & rescue to surveillance, from autonomous vehicles to assistive devices. In this course, we will learn about the basic concepts of image processing, image reconstruction from incomplete data and image analysis to obtain meaningful information from imaging data. We will also study how and where there is a possibility of biases being introduced into the entire imaging process – from acquisition to interpretation.

The specific topics (as they apply to imaging) that we will cover include but are not limited to sampling, linear transformation, geometric transformation, convolution, change detection, edge detection, quantization, filtering, compression, color spaces, image segmentation, image reconstruction, classification, feature extraction.



[Image credit: Gao et al 2022 "Application of medical imaging methods and artificial intelligence in tissue engineering and organ-on-a-chip"]

ENGX 2199

## Cohort Learning in Parallel (CLIP)

*Like an independent study, but together...*

### External content

Build skills and knowledge on a topic you want to learn (e.g., a new programming language, some technical topic we don't offer a course in, etc.)

Take advantage of existing learning materials (from inside and outside of Olin) and learning technologies (AI and open course materials)

### Internal support

We will form student cohorts and co-create structures for accountability and connectedness on your learning journey.

Students in a cohort can be learning the same things or different things.

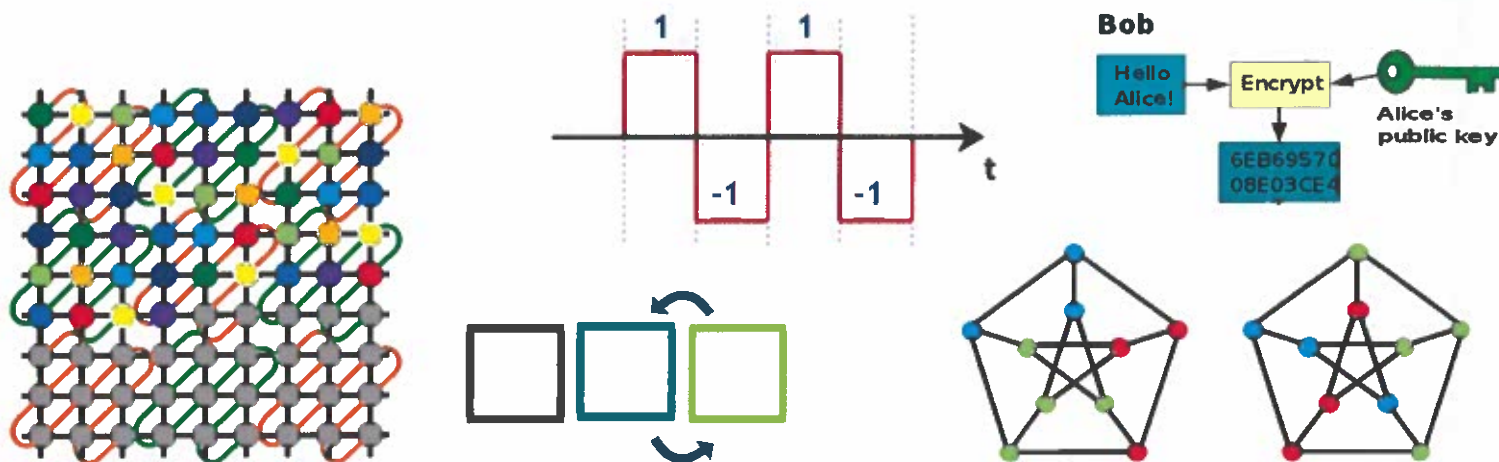


Talk to Andrea Cuadra and Sam Michalka at Course Fair.  
Initial design work by Swasti Jain, Darian Jimenez, and Jun Park.



# MTH 2110: Discrete Mathematics

These graphics from prior projects give a glimpse at what Discrete is all about!



Depending on student demand, there will likely be two sections of Discrete next fall

Discrete Math is required for E:C and ECE majors, and it is an approved elective for E:Robo. Other majors are also welcome, and we do often have a few students from other majors in each section!

This course addresses the following Olin Learning Outcomes, roughly in decreasing order:

- Develop and Apply Knowledge, Skills, Approaches and Methods
- Collaborate Successfully
- Communicate Effectively
- Develop and Apply Creativity
- Design and Implement Processes to Achieve Desired Outcomes

In service of these learning outcomes, we will count a lot of things that are hard to count, use graphs as a way to model everything from social networks to states of games, and apply recursion and induction to a variety of situations. Special topics might include error-control codes, cryptosystems, combinatorial designs, and/or open problems in discrete mathematics.

You'll have a wide variety of deliverables including daily pre-class work (reading and warm-up problems), weekly group assignments, some individual assignments, and some group projects. You will get timely feedback on your work with a focus on revisiting concepts to gain creative mastery of the material. Many students report that this is a hard but fun class!

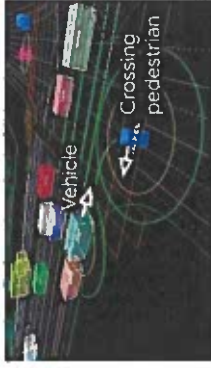
# MTH 2130 | Probabilistic Modeling

## Fall 2025 | Prof. David Shuman



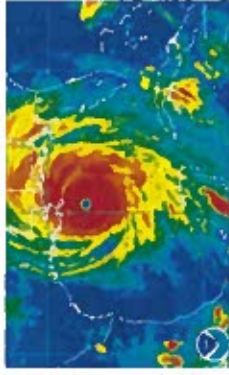
### UNCERTAINTY & PROBABILISTIC MODELING

Where is the pedestrian likely to be in 10 seconds?



Source: Waymo Open Dataset

Where will a hurricane hit land and how strong will it be?



Based on current polling, how likely are different outcomes in an upcoming election?



Source: FiveThirtyEight

What is the age of sunlight by the time it travels from the core to the surface of the sun?



Source: [http://sunearthday.nasa.gov/2007/locations/ttt\\_sunlight.php](http://sunearthday.nasa.gov/2007/locations/ttt_sunlight.php)

How long will it take to get through the security line?

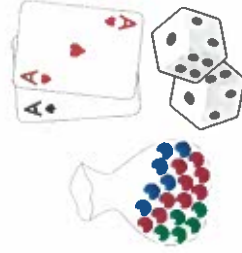


### COURSE DESCRIPTION

As we strive to better understand the world around us, interact with it, and make informed decisions, it is important to be able to model uncertainty. Moreover, our natural intuitions about uncertain events are often incorrect. Probability provides the language and formalisms to help us model and analyze uncertain situations. Through a series of modeling projects, we will learn the foundations of probability theory and practice the art of choosing appropriate probabilistic models. Probability concepts covered will include counting; conditional probability and Bayesian inference; independence; random variables and their properties such as expectation, variance, and covariance; and limit theorems. Discrete and continuous random processes covered will include Bernoulli processes, Poisson processes, Markov processes (including their use in Markov chain Monte Carlo simulation), and Brownian motion. Students will select their own projects from a wide range of fields, such as network science, robotics, genetics, climate modeling, signal processing, machine learning, simulation, epidemiology, finance, queuing theory, communications and information theory, and neuroscience.

### COURSE STRUCTURE

We'll be using a blended learning or semi-flipped classroom model where you watch video lectures and/or read the textbook outside of the classroom, and the majority of our in-class time will be used for active learning exercises and projects. I write "semi-flipped," because you will still engage in many homework activities and problems outside of class, and I will still take some time to summarize important points, refine our understanding, and discuss points of confusion in class.



### PREREQUISITES & REQUIREMENTS SATISFIED

There are no prerequisites. This course counts for 4 MATH credits and fulfills the Prob/Stat requirement.

QUESTIONS? See Prof. David Shuman or email [dshuman@olin.edu](mailto:dshuman@olin.edu).



# Sustainability Initiatives Research Collaboration (SIRC)

SCI2199

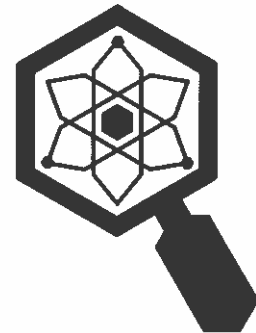
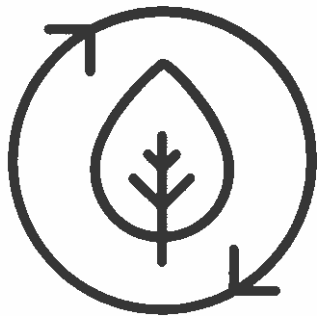
**Fall 2025**

**4 Credits (Elective, credit area dependent on Fall '25 project type, likely Foundation Bio)**

Pre-requisites: none

This new program pilot provides an industry project experience within a course and offers students from all grade years an opportunity to collaborate on real-world sustainability projects with industry partners and faculty. Through this hands-on experience, students will work in diverse teams and engage with partner to address challenges contributed by external partners. Students will gain insights into problem solving for sustainability in a real-world context.

The subject of the project will be dependent on the external partner, TBD for Fall 2025.



Contact:

Jean Huang ([jean.huang@olin.edu](mailto:jean.huang@olin.edu)), Lauren Palmer ([lauren.palmer@olin.edu](mailto:lauren.palmer@olin.edu))

Image credits:

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<https://thenounproject.com/icon/physics-152498/>

# SCI2299: Environment & Health



This course will explore the intricate relationship between the environment and human health. Through discussions, activities, readings, and laboratory exercises you will investigate how various environmental factors, such as chemicals in our food, products and spaces; stress; UV exposure; nutrition; air and water quality; and climate change impact human health at the cellular, organismal, and global level both in the present and future. You will also explore potential solutions and adaptations.

This course addresses the Sustainable Development Goal of “Good health and well-being” (among others).

This “mixed” level class fulfills the Olin foundation Biology requirement and can also be taken by students who have already completed a foundation.

Prerequisites: none

Instructor: Joanne Pratt

Lab Instructor: Michael Fannon

# Environmental Analysis and Science (EAS)

SCI 2310 OR ENGR 2810

Scott Hersey



Do you want to gain experience with community-engaged environmental analysis for impact? Are you interested in learning quantitative approaches to analyzing environmental systems? Curious how environmental data are collected and analyzed with lab instrumentation and software packages? Want to gain experience translating environmental insights into actionable steps for non-expert stakeholders like elected officials, advocacy groups, and residents? If you answered yes to any of those questions, you'll find a home in Environmental Analysis and Science (EAS)!

## EAS At a Glance

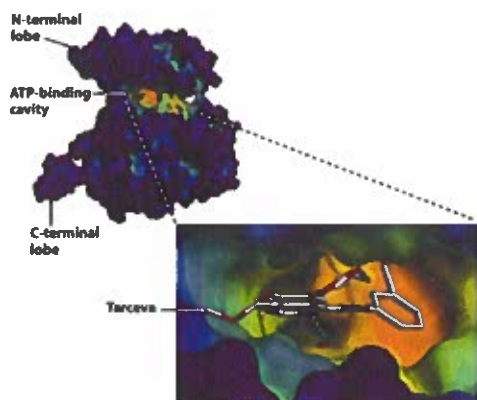
- Choose 4 credits of: SCI, ENGR, or Intro to Sustainability;
- 3 main course sections: a) Air quality analysis and insights for community partners in Boston, b) Water quality analysis for Boston's Muddy River with partners CRWA, and c) Soil contamination analysis for partners in Boston;
- Activities include air quality data analysis and insight generation in R, water sample collection in the field, analysis of water samples in the laboratory, soil sample collection and laboratory analysis, written and oral communication of analysis insights to diverse audiences, and in-class data workshops;
- Meets twice per week for 100 minutes.



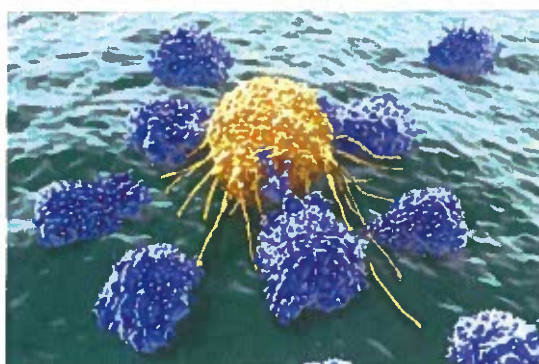
## SCI1240: Designing Better Drugs

In this class, you will learn to apply concepts and laboratory skills that are currently used in biological research to solve problems in health and disease and drug discovery and development. You will develop an understanding of the larger societal context in which biological concepts, tools and research play a role in everyday life and medicine, how societal context shapes the advancement of research in biology and medicine and how climate change will impact global health. You will also develop skills in technical writing and oral communication and gain experience with the basics of designing, conducting and evaluating laboratory experiments.

This course addresses the Sustainable Development Goal of “Good health and well-being” (among others) and the engineering grand challenge of Engineering Better Medicines.



Tarceva fits in target's groove and blocks its activity. The target of Tarceva is mutated in many forms of cancer including lung and pancreatic cancers. Understanding the biochemical basis of disease aids in developing effective and specific therapies that minimize side effects in patients.



**Immunotherapy: T cell attacking cancer cells**  
One of the most exciting areas in treatment of diseases is leveraging the immune system to destroy infected cells or cancer cells.

This class fulfills the Olin foundation Biology requirement.

Prerequisites: none

Instructor: Joanne Pratt

Lab Instructor: Michael Fannon