SPRING 2026

Course Fair

- Wednesday, October 1st, 11am-12pm
- Dining Hall
- Meet with faculty and learn more about tentative spring courses

Scan the QR code to view the tentative Spring 2026 course offerings:

ISR

INTRODUCING OLIN'S BRAND-NEW INDEPENDENT STUDY EXPERIMENT EXTRAORDINAIRE....

CLIP* (ONTO CAP)

Come join us for a bold new experiment that takes individual or group independent studies to a whole new place.

In **CLIP**, you can join the scaffolded, supportive, fabulous world of AHS Capstone but with an individual or group project that allocates credits however you like (no AHS required).

Really?!?!? I can get whatever credit allocations make sense for whatever fabulous things I want to learn?

Yes, indeed. And we're not just thinking out of the box with credit allocation. You may also choose to work with faculty mentors at or beyond Olin, or with Olin alums!

How do I learn more?

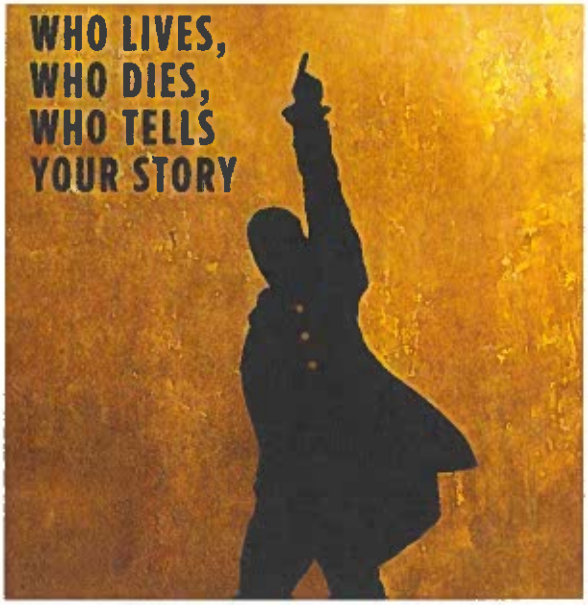
Email Gillian Epstein asap to learn more and to join this bold new world! We can discuss your ideas and find a mentor so that you are ready to dive in for Spring semester.

***CLIP = Cohort Learning in Parallel**

ISR

Identity Theft

2-CREDIT AHS GROUP ISR
Spring 2026
(full semester, pass/fail, 1 hour meeting per week)



More than 25 Olin students have collaborated with Jon on the foundational research that informs the book Jon is currently writing for Penguin Random House/Avery. The book is tentatively titled *Identity Theft: Who We Are and Who We Might Become* and uses cases of people who lose narrative authority over their life story to share the science of narrative identity and to imagine how identity might look different in the future. In Spring 2026, Jon is going to convene a group ISR (2 credits of AHS, full semester, pass/fail) to get feedback on the book. Each week students will read a chapter of the book and provide written feedback for Jon's revisions. We will meet once a week for one hour to discuss each chapter. Priority will be given to students who previously worked in Jon's lab on this project or took his Identity AHS Foundation course, but all are welcome.

IBAT SPRING 2025

The Intersection of Biology, Art, and Technology

AHSE2160-01 and SCI1260-01

with Professor HDK (Helen Donis-Keller)

Nathan Weil 2021

Dieter Brehm 2021

Arturo Joya 2023

Above: 3 IBAT student projects

This course crosses boundaries between art, biology and technology, via hands-on projects inspired by work in all three fields. This intersection opens up thrilling questions: How do technological breakthroughs inform new possibilities in biology and art? How might biology inform art practice and how might art inform biological concepts? What are the implications of being able to change the genome of an organism? What is evolution really about? What is life about? Who was the first conservationist? In answering these questions we will conduct a range of activities based on student preferences, which can include:

- Making cool studio projects that combine art with biology and technology
- Discover Darwin's forgotten theory and the evolution of beauty
- First-hand interactions with expert practitioners in biology, art and technology fields
- Fun biology labs like growing mushrooms and studying your own DNA
- Experience in visualization technologies such as freehand drawing and using the scanning electron microscope (SEM) to make art
- At least one field trip to an art museum/technology center
- Exploring and understanding the connectedness of all things in nature and how humans are affecting the natural order of life.
- Learning about the genius of organisms other than humans

Advances in biology and its essential link with technology have led to rapid changes in applications to health care, understanding how organisms work, and the outcomes of human activity on the environment, including the advent of data centers. By the end of the course you will know how to fluidly move from field to field, and navigate between thinking and doing, so as to garner creative strength not possible from the perspective of each field alone and with a deeper understanding of human impacts on the planet.

8 Credits Total: 4 AHS (Suitable for inclusion in many AHS concentrations)
4 SCI (Satisfies the foundation biology requirement)

AHSE 2199

LOCAL DEMOCRACY

Politics and Participation Where We Live

Tired of doomscrolling the news from Washington? Education, environmental action, transportation and infrastructure, jobs—these all happen somewhere—where you live. Learn how self-governance works at the local level, and you can have tremendous impact.

"All politics is local."

Tip O'Neill
47th Speaker of the House of Representatives (D-MA)

Course Overview

In this seminar, we'll explore how democracy actually works at the local level—from town meetings to school boards, community organizing to participatory planning. We'll visit our own democratic institutions in Needham and hear from local politicians, government officials, journalists, and activists in the Greater Boston area. You'll learn how to engage effectively as a citizen and neighbor.

Why Take This Course?

- ✅ Cultivate your professional and personal identity in relation to civic life and the public good
- ✅ Build confidence in navigating public meetings, advocacy, and decision-making
- ✅ Gain practical skills in community engagement and democratic participation
- ✅ Strengthen your (and Olin's) connection with the place we live: Needham

What Will We Do?

Field Trips: Observe local government in action
Guest Speakers: Learn from local democratic leaders
Current Events Discussions: Connect local, national, and global issues
Case Studies: Learn from communities in Massachusetts and beyond
Learn the Lingo: Zoning, Public Records, NIMBYism

Details

- 📅 **Spring 2025**
- 👩‍🏫 **Instructor**: Erhardt Graeff
- 📍 **Format**: Seminar-style, discussion-based, project-driven
- 🎓 **Credits**: AHS elective

AHSE2199C or ENGR2299

Designing with Emerging Technology: Generative AI

Counts as AHS or ENG design concentration

Cut through the hype... understand for yourself.

in a *tentative* class with new faculty member, Lis Sylvan, esylvan@olin.edu

Try Out AI Tools

Try out many Gen AI tools depending on their interests: general purpose LLMs, tools for video, 3D, research, coding, image making, and more

Design with the Tools

Explore what the tools are good and not good at. Brainstorm and prototype approaches using them for different student-selected purposes and workflows

Context & issues

Hallucinations, types of AI, people's relationships with AI, IP and plagiarism, AI's impact on thinking and learning... social and technical context to consider

Ethical concerns

Understanding different kinds of bias (human and system) and what to do about it. Principles and practical approaches to responsible AI, exploring where your ethics take you.

A typical class will involve a brief instructor-led overview of the topic of the day, active learning with AI tools, and full-group discussions about the primary topic, emergent topics, and active learning experiences.

MOTIVATION & SELF-DIRECTION IN EDUCATION

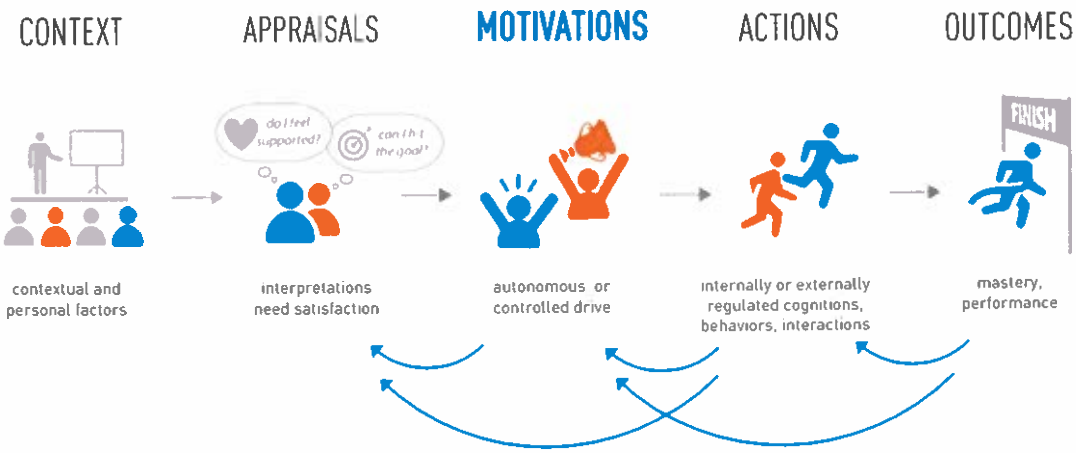
AHSE2199E

Jon Stolk

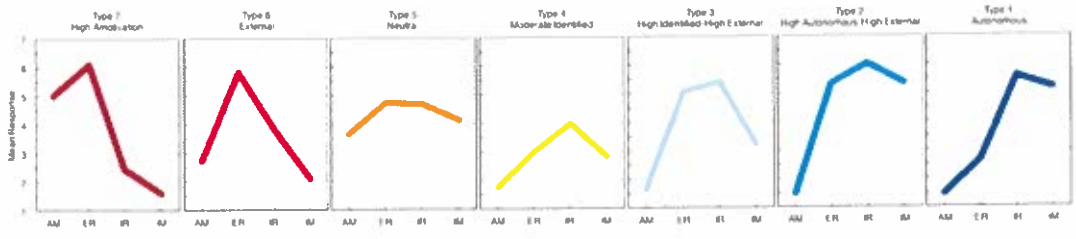
What drives our desire to know and understand? What triggers our curiosity and sense of wonder? What promotes a sense of happiness and well-being? What helps us overcome obstacles and reach our full potential? What draws us toward beauty, love, and creative expression?

In this course, we will explore what motivates people to engage in learning, and critically examine how learning conditions may promote a range of learner responses, from autonomous to controlled motivations or external to internal regulation. To deepen our understandings of motivation and self-regulation, we will study conceptual models and empirical research support for a range of motivation and self-regulation theories. We will put these theories to work, by testing their usefulness and limitations in describing and explaining our own and others' behaviors. With theoretical tools in hand, we will examine how course design and pedagogy influence motivations and self-regulation, and assess opportunities for positive change in educational systems, including those at Olin. The semester will culminate in self-directed analytical or design projects that are shaped by self-determined goals, strategies, interactions, and outputs, and fueled by individual interest, passion, value, curiosity, and joy.

1. CRITICALLY ANALYZE DIFFERENT MODELS FOR MOTIVATION AND SELF-REGULATION -



2. EXAMINE EMPIRICAL RESEARCH DATA FROM COLLEGE CLASSROOM SETTINGS –



3. DEVELOP AND IMPLEMENT A SELF-DIRECTED PROJECT (ANALYSIS OR DESIGN FOCUSED)

AHSE 4190

Psssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssst. Find out....

THE BEST KEPT SECRET AT OLIN

AHS Capstone.

*Um, what? You mean instead of taking a third AHS Course to complete my AHS concentration I can create my very own **AHS Capstone** independent or group project exploring my concentration to my heart's content? And I'll have a mentor and scaffolded project support in a fun and fabulous class with lots of studio time so I'm not marooned on an island of solitary work all alone?*

Yup.

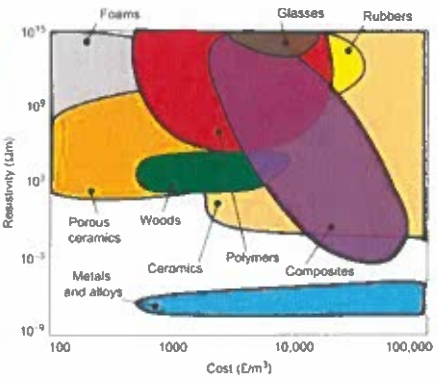
Where do I sign up?

Email Gillian Epstein asap to find out if AHS Cap is the secret to making all your AHS dreams come true! We can fast-track your project idea and find a mentor. Act now and you can even join AHS Prepstone and get an additional AHS credit just for getting ready to do your fabulous project! What's dreamier than that?

ENGR TBD: Digital Material Systems

Digital fabrication techniques have long been aimed at creating unique geometries and forms from standardized, often industrially produced or processed material. This course will explore the materialization of design as both a technical and a creative endeavor structured by the typologies of manufacturing processes – including subtractive, additive, molding and assembly processes. Students will engage with a range of methods and materials such as ceramics, glass, metal and composites that underpin digital fabrication.

Students will learn to use computational design tools to create functional and aesthetic objects through household items like mugs, plates, and bowls. The curriculum focuses on how digital processes can be integrated with traditional and modern fabrication methods to produce personalized, high-quality, and innovative products. We will explore the entire design-to-production workflow, from initial concept and digital modeling to material selection and final output. We will learn to select appropriate materials for a variety of applications, considering factors like durability, aesthetics and others. In addition, we will also use Universal Design Principles and human-factors to influence our designs.

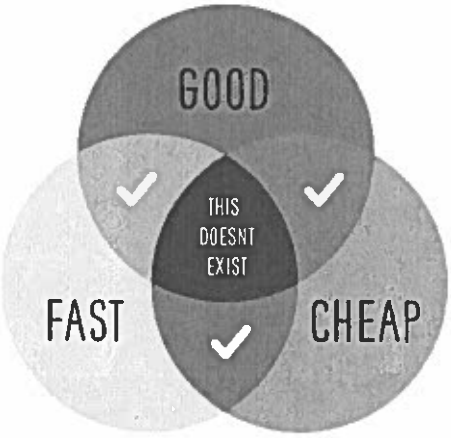


This course is **hands-on and project-based**. Each module will introduce a new material and a set of digital design principles, culminating in a design project. Students will document their design process and share their creations with the class.

Course Instructor:
Daniela Faas (daniela.faas@olin.edu).
Email with any questions!
Preference given to DFM waitlist.

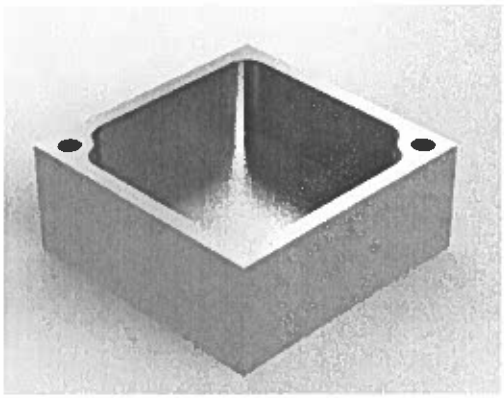
ENGR 3260: Design for Manufacturing Spring 2026?!?

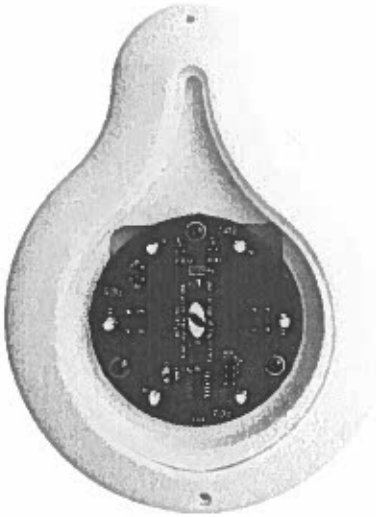
In the process of creating a new product, device or system, a "proof of principle" prototype is built to demonstrate both that such an object can be built and to test how well it works. At a practical level, in the process of creating this prototype, many sub-optimal design concessions are made in the 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.

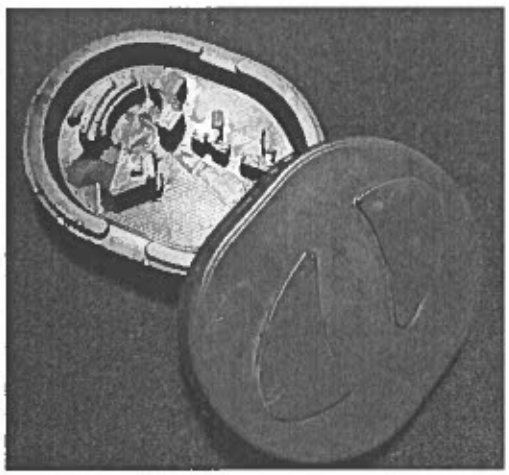


Design for Manufacturing will build the specialized design skills needed to professionally redesign a prototype in order to meet target price, reliability and functionality goals, whether the final market requires a single unit per year (i.e. space systems, like satellites) or fifty thousand units a 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.

Course Instructors:
Daniela Faas (daniela.faas@olin.edu).
Email me with any questions!
Preference given to Fall waitlist.







ENGR3370: Controls

Prerequisite: ENGX2134 AND {ENGR2340 OR ENGR2410}
Instructor: Xuan Kong
Credits: 4 ENGR; Hours: (4-0-8) | Count as an ECE or ME elective

🎯 Course Description

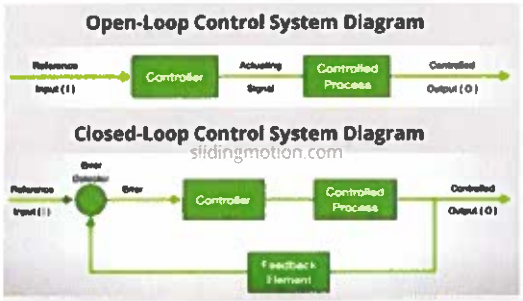
ENGR3370 course explores the techniques for changing the dynamics of a system using feedback control. The first portion of the course covers methods for analyzing the open-loop dynamics of generic systems in the frequency-domain (transfer functions) and time-domain (state-space equations). Then we will develop feedback techniques for shaping the system response. Students completing this course will have analytical tools for controller design (both classical and modern) as well as a fundamental understanding of the concepts behind feedback control (stability, performance, controllability, observability, etc.). Students will have opportunity to experiment with control design by implementing their own designs in analog and digital hardware.

📘 Textbook

Feedback Control of Dynamic Systems by Franklin, Powell, and Emami-Naeini (8th Edition)

🔑 What You'll Learn

- 📊 Mathematical modeling of dynamic systems
- ⏱ Time-domain and frequency-domain analysis
- ⚖ Stability and performance of feedback systems
- 🎛 PID control and state-space methods
- 🤖 Real-world applications in engineering systems



*No need to worry if theory and math feel intimidating—we will work together through **practical connections** and **intuitive examples** to help you see how concepts apply in real engineering problems.*

🚀 Why Take This Course?

Build a **solid foundation** in control theory, applicable across all engineering disciplines.

- ✓ Mechanical engineering: Design of robotic systems and autonomous vehicles.
- ✓ Electrical engineering: Design of power regulators and circuit systems.
- ✓ Aerospace engineering: Creation of flight control and navigation systems.

- Gain **hands-on experience** with problem-solving, simulation, and design.
- Boost your readiness for **automation and AI** with an **in-demand skillset** valued by industry.

✨ Plan on ENGR3370 to take control of your engineering future!

ENGR3399

MECHANICAL ANALYSIS

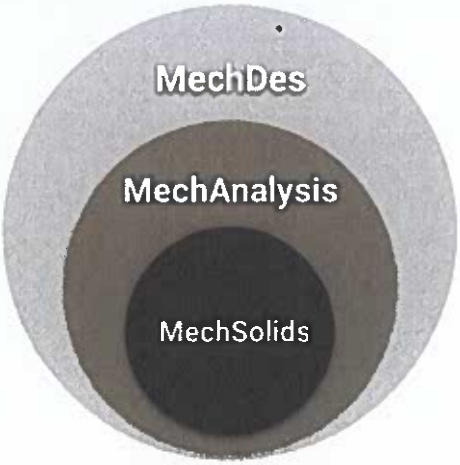
BY: SATCHEL, ALTON, AND CAMDEN

CLASS OVERVIEW:

2 ENGR-credit **student-led course** centered around **applying mechanical analysis** practices to your and others' designs

WHAT WILL YOU LEARN?

- Analysis skills you'll use later at Olin, in Co-ops and Internships, and in your ME technical interviews



EXAMPLE TOPICS:

- Stress and Strain
- Excitation and Resonance
- Component Selection
  - Bearings
  - Bolts
  - Gears
- Design for Manufacturing
- Safety Factors
- And many more!

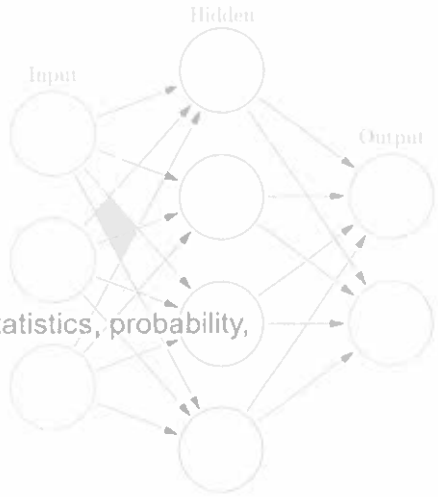
This has yet to be determined and is subject to approval - there may be a pre-req.

***No Prerequisites for this course!**

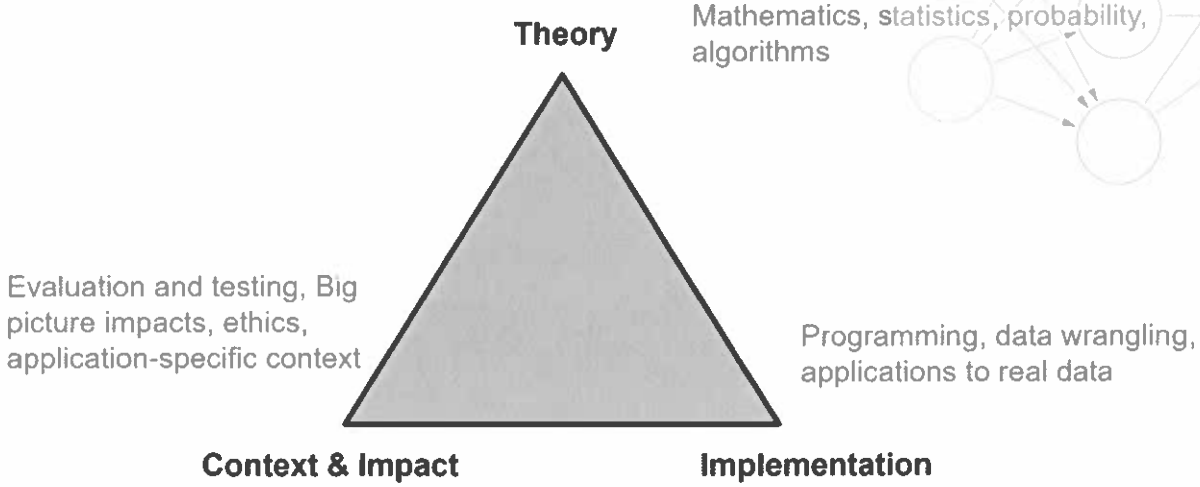
INTERESTED? FILL THIS OUT!

ENGR 3537 /MTH 2137

Machine Learning!



Instructor: Paul Ruvolo (Professor of Computer Science)
Prerequisite: Software Design
Counts for: prob stat and E:C or ECE Elective



Key learning outcomes

- Learn the **mathematical and computational properties** of machine learning algorithms.
- **Successfully implement** machine learning algorithms
- Design machine learning systems for **positive impact** by considering the perspectives of stakeholders and by minimizing harmful impacts (e.g., maximize trust, minimize environmental impact, respect privacy).
- Execute the iterative machine learning workflow of model design, fitting to training data, testing, and interpretation to **successfully apply machine learning techniques in specific contexts**.

Major topics and activities

- How LLMs work under the hood
- The math behind fitting a model to training data (**brush up on your linear algebra and multivariable calculus skills!**)
- **Machine learning meets the world**: racial / gender bias in ML systems, environmental considerations, trustworthiness
- Convolutional Neural Networks for computer vision
- Engage with a rich case study of using machine learning in the context of human-centered design.

Scan the QR code to visit the course website from the 2024 edition (will be adjusted, but the general topics will be similar)

ENGR3560

Scientific Computing!

4 credits ENGR*

Hone your

* project scoping
* refactoring
* code reviewing
* presentation
* visualization

Skills!

Learn

* agent-based modeling (good for robots)
* scientific modeling tricks
* how to use a supercomputer!

Questions? cnugent@olin ← Carrie

* probably? If you strongly want SCI email Carrie

Special Topic Probabilistic Robotics
ENGR3999 (2 credits)/MTH213X (2 credits)

Elective E:Robo; Prob-Stat Credits; Tentative ECE/E:C Elective

Suitable for all majors!

Required Prerequisite: Software Design

Recommended Pre/CoRequisites: FunRobo, CompRobo, or Discrete

What is robot intelligence?
How do robots make decisions about where to go, what to do, and how to do it?

In this class, you will:

- Learn the mathematical underpinnings of modern robotic algorithms for dealing with complex environments and tasks
- Dive into three aspects of a robot "brain" --
    - **Perception**: sensor processing, likelihood fields, correlations, feature extraction
    - **Prediction**: state estimation, SLAM, belief maps
    - **Planning:** informative path planning, agentic AI, task and motion planning
- Practice formalizing robot tasks and writing robot software

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Help us know how to offer this course by **filling in the Course Survey!**

You're also invited to provide design input for the class structure and topics here:

DESIGN JUSTICE STUDIO

Formerly called Affordable Design and Entrepreneurship (ADE)

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

MISSION

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

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

MTH2131 ENGR3531

Data Science With an Eye Towards Sustainability
Spring 2026 | Prof. David Shuman

Data Science

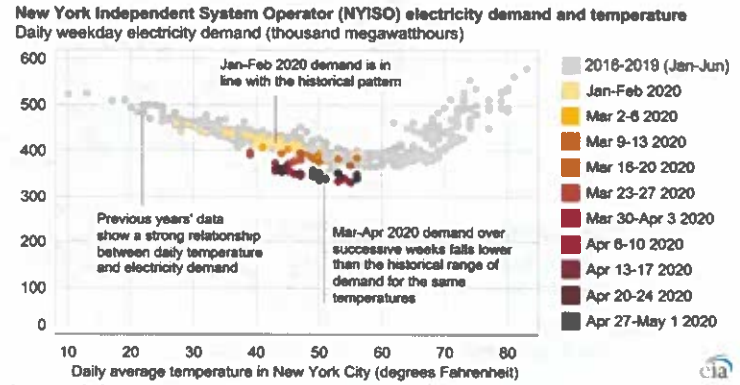
The primary learning objective of this course is to gain confidence in carrying out the entire iterative data science pipeline, from research question formulation, to data collection/scraping, to wrangling, to statistical modeling, to visualization, to presentation and communication. We'll learn and use the R/RStudio programming environment with the Tidyverse collection of data science packages. There will be a strong emphasis on exploratory data analysis, visualizations, statistical literacy, reproducible work, and storytelling with data.

With an Eye Towards Sustainability

All data sets and projects will have some connection to sustainability. You'll have the opportunity to use data to examine:

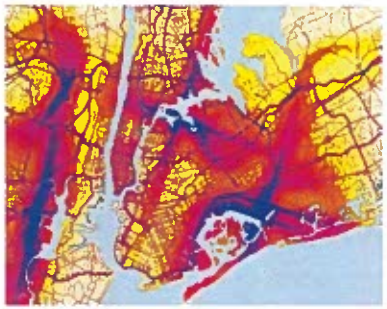
- Intersections between racial equity and climate justice
- Greenhouse gas, air quality, temperature, natural disaster, and sea level trends
- Renewable and alternative energy infrastructure investment
- Electricity demand and fossil fuel consumption patterns (including at Olin)
- Waste generation and management trends
- Management of forests and other natural resources
- Citizen-centric environmental monitoring
- Food production, food consumption, and hunger patterns
- Marine pollution
- Transportation systems
- Data warehouses
- Or any other sustainability-related data in which you are interested ...

... at micro, local, national, and/or global scales.



Source: U.S. Energy Information Administration, *Hourly Electric Grid Monitor*; National Oceanic and Atmospheric Administration, Aviation Weather Center and National Centers for Environmental Information

AirSensor open source R package.



Noise pollution map.
Source: Volpe Center

Registration Details

There are no prerequisites for this course! It is for everyone. No prior experience with coding is needed.

The course counts as 2 credits of math and 2 credits of engineering.

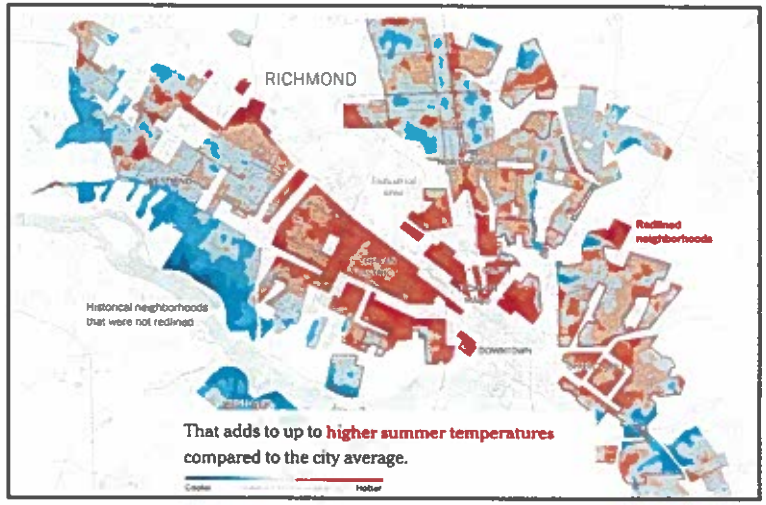
The course can count as EITHER a ProbStat elective OR an E:Sust elective OR an E:Computing elective.

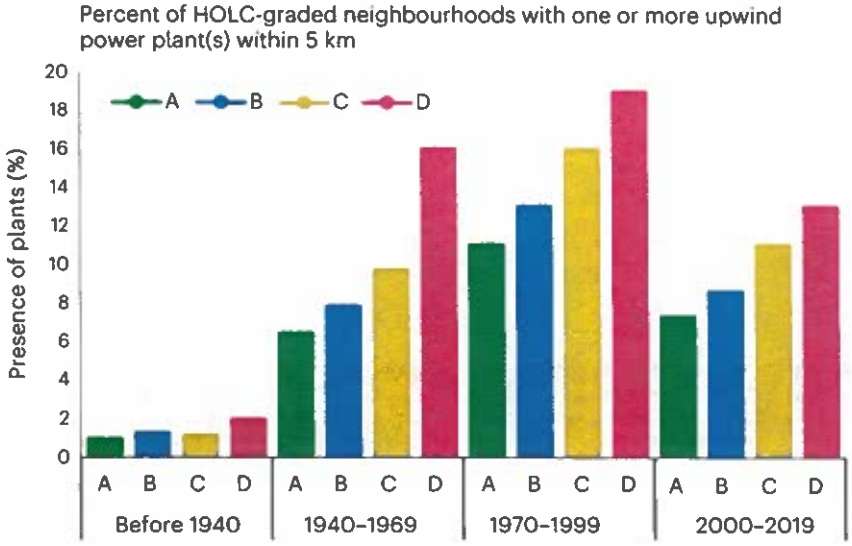
Questions?

See Prof. David Shuman or email dshuman@olin.edu.

Just a Few Examples of the Intersections Between Racial Equity and Climate Justice

The effects of racist appraisals of investment risk (red-lining) by the US Federal Home Owners' Loan Corporation in the 1930s persist today…





… and many recent policy decisions continue to exacerbate these inequities

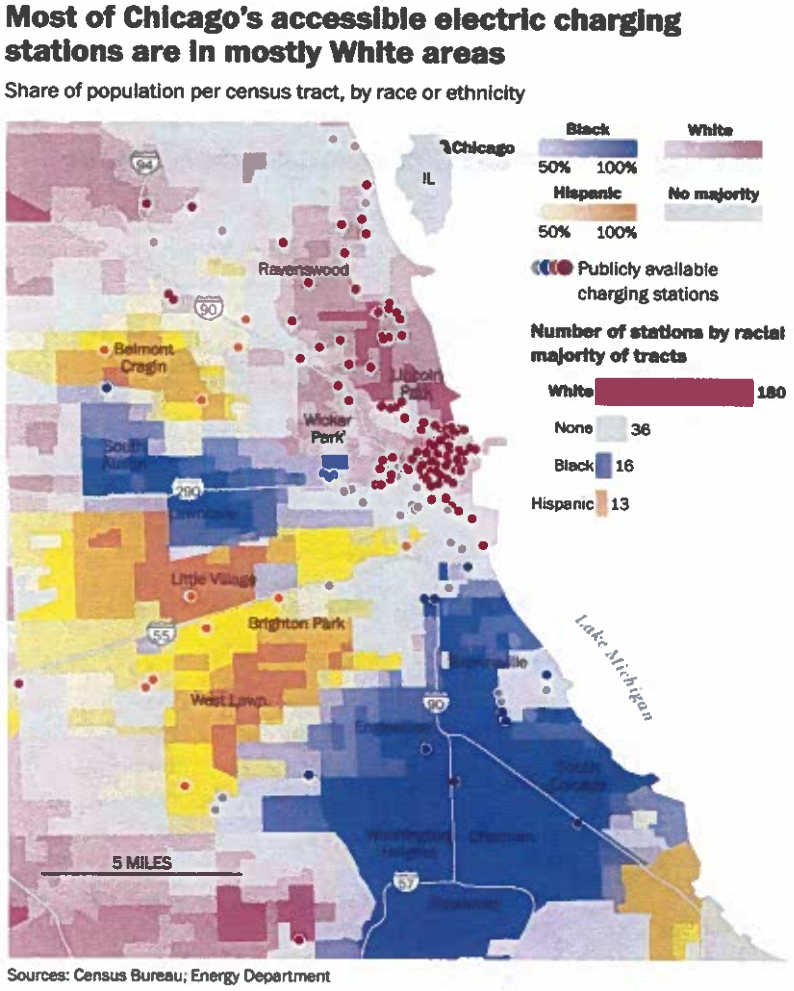


Image Sources

Top left: Plumer and Popovich, *New York Times*, Aug 2020
Bottom left: Cushing et al, *Nature Energy*, Dec. 2022
Right: Englund, *Washington Post*, Dec. 2021

The Theory and Application of Algebraic Structures

Professor Sarah Spence Adams

Math 3199: Adaptable to your major or area of interest

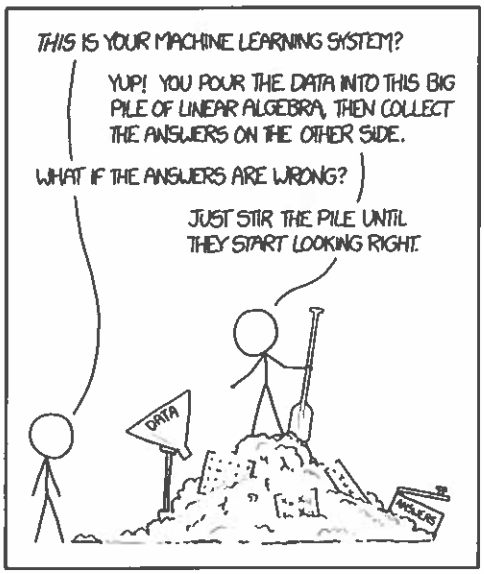
Did you know that machine learning is a big pile of linear algebra?

Did you know that eigenvectors helped the Loggerhead turtle population rebound in the Southeastern US?

Did you know that a recent survey of E:Robo students/alumni indicated a desire for more linear algebra?

Did you know that modern cryptosystems & error-control codes rely on abstract algebra concepts such as Galois fields?

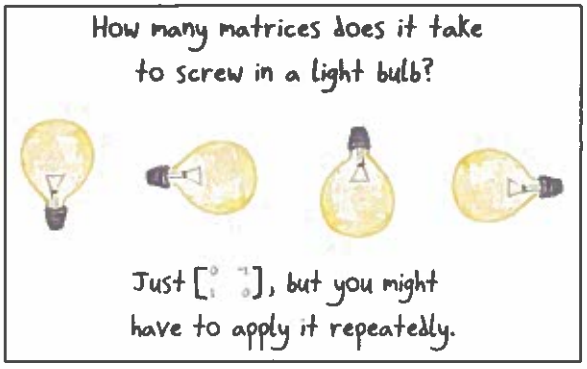
Did you know that mechanical engineering tools such as least squares approximation, modal analysis, and principal component analysis all rely on linear algebra?



In this new course, students from all (or most*) majors will have the opportunity to improve their quantitative knowledge/skills related to linear algebra, abstract algebra, or other algebraic structures, and apply their new learnings to applications relevant to their major or personal interests.

Students will begin their quests by deciding which topics in the broad area of algebraic structures may be useful/interesting for their majors and future goals. This might involve contacting people (e.g., industry professionals, graduate students, professors at Olin or elsewhere) for input. Students will then work in small groups to propose, plan, and execute a series of tasks/projects/experiences that facilitate their learning and application of new content.

Some full-group lessons/assignments on key content or applications in linear/abstract algebra will occur, however, for the most part, students will need to take initiative to articulate their learning goals and craft experiences to achieve those goals.



This class is a great match for students who have finished QEA 1 & 2 and are motivated to significantly challenge themselves through setting goals and sustaining their efforts towards achieving those goals. Students in the first two offerings found value in deciding what to learn and how to learn it, yet many found this to be much more challenging than expected.

*This course has been approved to count as the advanced math requirement for ME and E:Robo majors. For others, please ask faculty who teach in your major to ascertain if this can count as a major requirement. Otherwise, enjoy this course as a useful elective that can be made relevant to nearly any area of interest!

Comics taken from http://xkcd.com, https://mathwithbaddrawings.com/, and https://curiosamathematica.tumblr.com/

Olin College, Spring 2026

SCI1230: Think Like a Biologist

4 Credits (Foundation Bio)

Pre-requisites: none

In this survey course we learn fundamental principles of biology in a journey through the field from the molecular to systems levels. We examine different classes of biological problems and interactions across multiple scales through reading and discussion of primary and secondary literature from the field. We will discuss examples from the environment, microbiology, and current events and technologies and examine the intersection between biology and society. We will gain an understanding of core principles of biology, which will enable us to better understand and develop solutions to complex problems. Projects include examination of biology in the context of systems and exploration of ways in which biology informs interdisciplinary problem solving. Through projects and work in the laboratory students develop a practical and foundational understanding of biological principles and practice.

For Spring 2026, the special project focus will be related to study of microplastics degradation in the environment in collaboration with external partners, TBD.

Contact: Jean Huang
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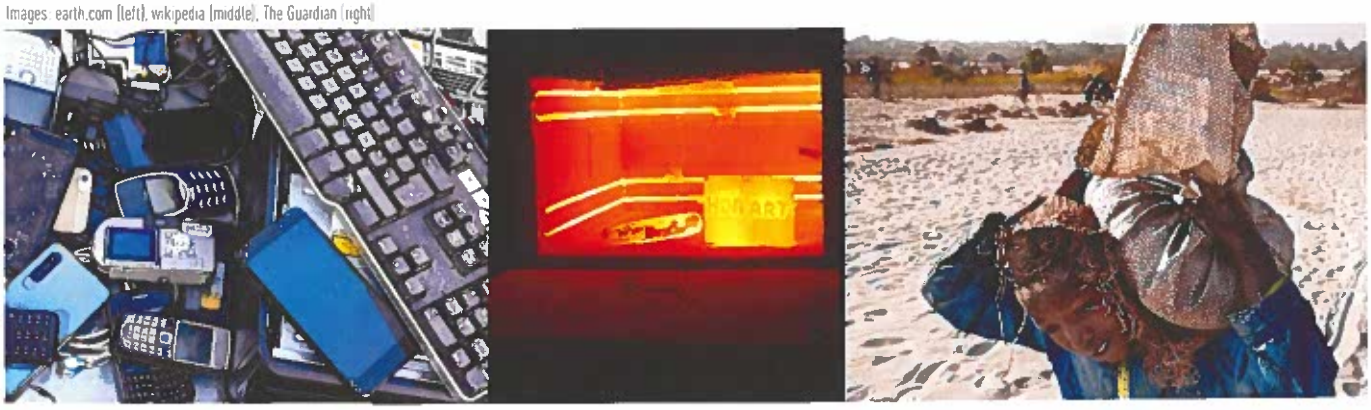
MM&E

Metals, Mining, & the Environment

SCI 1420 Jon Stolk

Images: earth.com (left), wikipedia (middle), The Guardian (right)

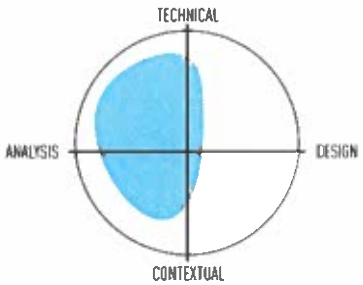


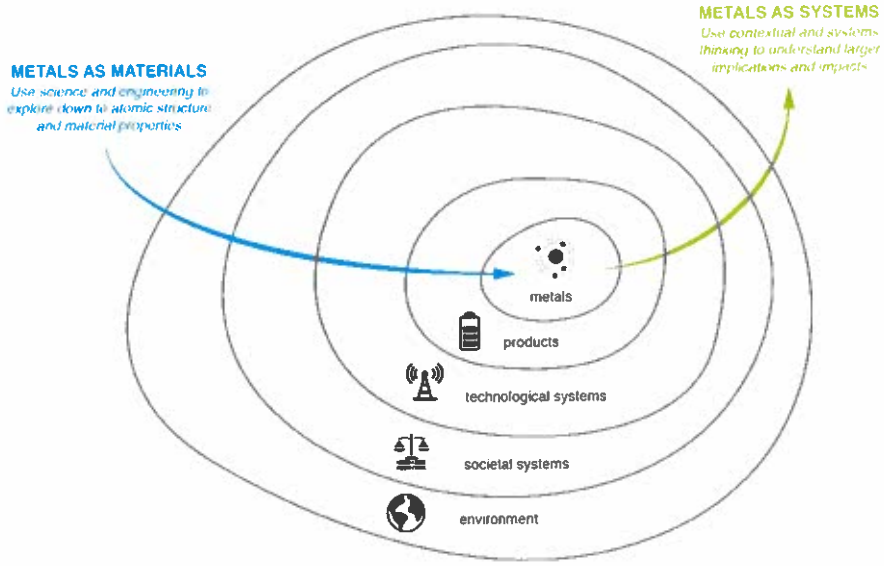
TRASH: E-WASTE & END-OF-LIFE

ALLOY PROCESSING

TREASURE: MINING & CIRCULAR ECONOMIES

It's project-based.
It's hands-on, in the lab.
It's systems thinking oriented.
It's sustainability-focused.



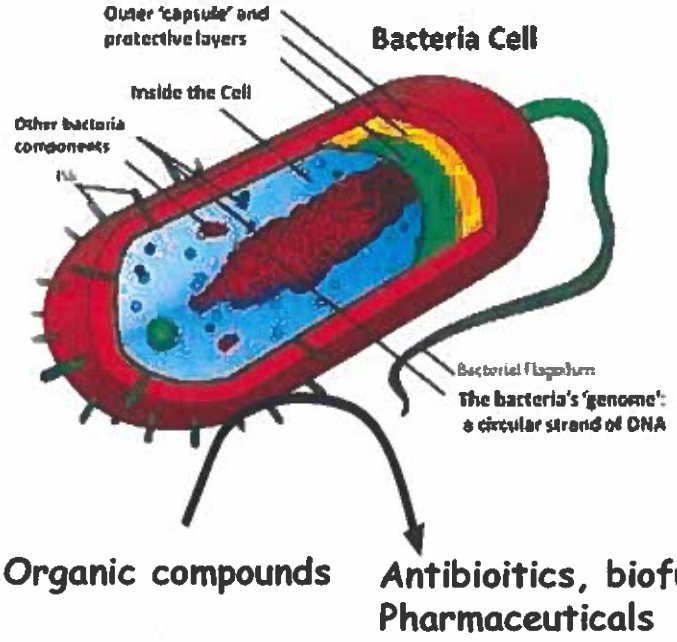


Explore the microbial world!

SCI2214: Microbial Diversity

Olin College, Spring 2026

Credits: 4 SCI, advanced bio



"We Are Our Bacteria" By Jane E. Brody
NYTimes.com

This course is an introduction to the tremendous diversity of the microbial world. The focus will be on the study of environmental bacteria and their metabolic, physiological and genetic diversity. Topics will include: bacterial growth, nutrient cycling, symbiosis, bioremediation, and molecular methods to work with bacteria. A significant portion of the course will involve exploration of the microbial world in the laboratory through individual and group projects. Students will gain experience with techniques to culture and study a variety of environmental bacteria and use bioinformatics tools for analysis of genomic data. In addition to developing technical skills, students will explore the applications of microbiology in business and entrepreneurship contexts.

Prerequisites: A foundation biology course

Contact: Jean Huang
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MCCI

SCI 1440
Jon Stolk

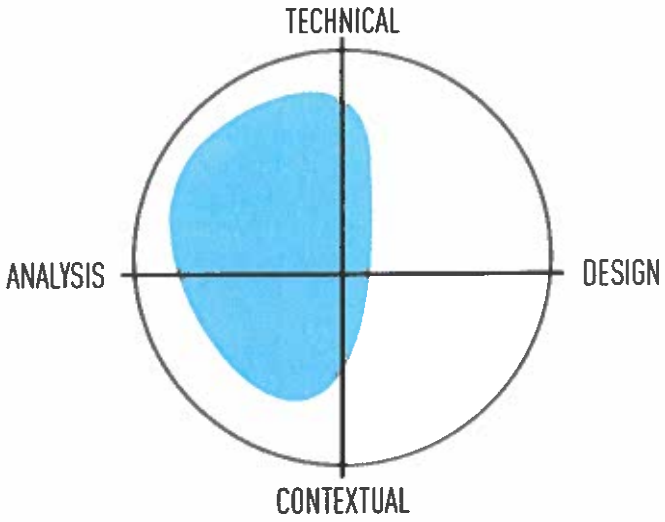
Materials Creation, Consumption, & Impact

SUPS: TRASHING OUR PLANET

ALLOYS: PATHWAYS TO PRODUCTS

DESIGN + MATERIALS + CULTURE/IDENTITY

It's project-based.
It's hands-on, in the lab.
It's systems thinking oriented.
It's sustainability-focused.



SC13399

Hello! I am Alessandra Ferzoco, and I will be teaching a chem/matsci requirement. I would like student input from the course fair to gauge which one...

Quantum Chemistry

Light can sometimes be thought of as a particle, and sometimes as a wave. The same thing turns out to be true for matter. We call that the wave/particle duality. When we consider matter to be a wave, hilarity ensues, and we call that hilarity quantum mechanics. In this course we'll study the quantized nature of matter, and the repercussions for how matter interacts, transforms, and stores and releases energy.

Stuff we'll do:

- Read snippets in text books, do math, do problems
- Read primary literature
- Explore open-source simulation tools
- Explore the use of AI, and potential of quantum computing, to crack previously intractable problems
- Play with building rudimentary spectrometers

To go deep, use **#quantumchem** on your survey

To dig deep, use **#foodchem** on your survey

Chemistry of Food

In this course we'll study nutrient cycling through our food system. That includes 1) the end product of metabolism of food and how it relates to the health of organisms, 2) the source of nutrients in our food - the soil, and all of it's associated microbiome and chemistry, and 3) the plant and animal producers in the middle.

Stuff we'll do:

- Read scientific literature to harvest information about nutrient cycling. This subject is new to me, so student can expect to participate in the gathering of information, communicating it to each other, and refining our understanding through critique of shared information.
- Some basic reading and problems in general chemistry
- *may* include simple lab experiments, if we find meaningful ones