

Fall 2020 Supplement and Course Offerings List

(vol19, no2.3, September 3, 2020)

Information Contained In this Document

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- 3) Registration Special Notes
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For General Registration Information and FAQs, please visit our [web page](#).

Schedule of Deadlines for Add; Drop and Pass/No Credit ; Withdraw

Session	Add	Drop and Pass/No Credit	Withdraw
Full Semester (Sep 8 – Dec 14)	September 21, 2020	November 11, 2020	December 14, 2020
Session I (Sep 8 – Oct 26)	September 14, 2020	October 7, 2020	October 26, 2020
Session II (Oct 28 – Dec 14)	November 2, 2020	November 30, 2020	December 14, 2020

Cross-Registration Deadlines To find cross-registration instructions, click [here](#).

	Babson	Brandeis	Wellesley
Cross-registration open period	4/27/2020 – 8/28/2020 at 4:30 p.m.	8/1/2020 – 9/9/2020	8/10/2020 – 9/4/2020 at 4:30 p.m.
First day of classes	8/24/2020	8/26/2020	Term 1: 8/31/2020; Term 2: 10/26/2020
Drop deadline	8/28/2020 at 4:30 p.m.	10/8/2020	Term 1: 9/11/2020 at 11:59 p.m.; Term 2: 11/6/2020 at 11:59 p.m.

Questions? You may find the answers in the Special Fall 2020 Registration [FAQ](#), but if you don't, feel free to contact the Registrar's Office at Olin College, registrar@olin.edu.

Registration Special Notes

Looking for an AHS course? Brandeis is open for cross-registration and this semester you don't need a car to take a course there. Find their course listings [here](#).

More on cross-registration: academic calendars have changed, so be very clear on **first days of classes** and **drop deadlines**. Babson and Brandeis classes start well before Olin's and Wellesley's, and the Babson drop date is also before our classes even start! Those very important dates are in the table above, but if you plan to cross-register, do check the detailed **academic calendars** on each school's website so you are also aware of holidays, exam scheduling, and the last day of classes.

[Babson](#)

[Brandeis](#)

[Wellesley](#)

Independent Study and Research: ISR/G opportunities will be available much as usual in Fall 2020. We are working on a process for on-line submission of proposals, so stay tuned for that. General information about the process can be found [here](#). The hard deadline for submitting proposals will be the last day of add/drop, September 21.

Passionate Pursuits: will be available; information to come.

Catalog Supplement

Degree requirements are outlined in the [Course Catalog](#)

Course descriptions can also be found in the catalog and in the portal course search. New, highlighted, and Special Topics course descriptions are listed below.

Summary of Course Changes

New courses for Fall – see descriptions below

AHSE1199-03: AHS Foundation: Dual Lives: Nabokov, Leonardo, Bach, Borodin – FULLY REMOTE

AHSE1199-04: AHS Foundation: Writers' Workshop: Creativity and the Literary Imagination – FULLY REMOTE

AHSE2199C-01: Special Topics in AHS: Connecting with Stories – FULLY REMOTE

ENGR2299: Special Topics in Design Engineering: Creativity Practicum – FACULTY REMOTE

ENGR3499-01: Special Topics in ECE: Microcontrollers for the Real World – FULLY REMOTE

Catalog courses now being offered in Fall 2020

ENGR2320 Mechanics of Solids and Structures – FULLY REMOTE

ENGR2420 Intro to Microelectronic Circuits w/lab – FULLY REMOTE

ENGX2000 Quantitative Engineering Analysis 1a – FULLY REMOTE

Cancelled Fall Courses

AHSE1122: AHS Foundation: The Wired Ensemble

AHSE1135: AHS Foundation: The Digital Eye: Photography, Vision, and Visual Communication

ENGR1125: Introduction to Sensors, Instrumentation, and Measurement

ENGR1330: Fundamentals of Machine Shop Operations

ENGR2110: Principles of Engineering

ENGR3299: Special Topics in Design: College STEM Educational Design

ENGR3392: Robotics Systems Integration

ENGR3499: Special Topics in ECE: Power Electronics - Digital Power Conversion planned for SP2021

MTH2199: Special Topics in Mathematics: Optimization

New, Updated, and Special Topics Courses

AHSE0112-01: The Olin Conductorless Orchestra: Building a Community of Practice – FULLY REMOTE

Instructor: Dabby

Credit: 1 AHS

New course description for Fall 2020 only: A community of practice has a social character whereby people work in tandem toward a goal. Yet they are united by more than membership in a group. They are united by the power of shared activity to create shared knowledge and shared ways of knowing. Here, the shared activity is music, a performing art that brings creative expression to life. During Fall 2020, OCO students will have the opportunity to perform live for one another, create a community of practice, explore solo/ensemble methods, and offer constructive evaluation. Moreover, as new tools become available for synchronous performance, OCO musicians will test them out, thereby expanding rehearsal and performance possibilities. (A student can apply up to 4 OCO credits to the 28 required credits in AHSE, or can petition to apply up to 4 OCO credits to the AHS concentration. Any additional credits, i.e., more than 4, earned by a student enrolling in OCO will show up as additional AHS credits, but will not count toward satisfying the requisite 28 credits in AHSE.)

AHSE1199-01: Arts, Humanities, Social Science Foundation

Democracy and Media – FULLY REMOTE

Instructors: Graeff

Credits: 4 AHS

Hours: 4-0-8

Registration note: AHS FOUNDATION; restricted to first year students

Everyday, you have the opportunity to choose democracy. When we think of democracy, we usually think of a form of government: a representational democracy like the United States. But, the experience of participating in a representational democracy is not always democratic. Conversely, companies and colleges like Olin are not organized as democracies, and yet the people that work and study there have many opportunities to practice democracy. Democracy is something you, and those around you, can choose to create and practice. To achieve this, we must acknowledge that democracy is contextual and mediated. Dimensions such as gender, race, class, ideology, norms, economics, and institutional power all affect the political standing of citizens and issues. Media, too, has long shaped the experience of democracy: debate, writing, voting, and petitioning are ancient technologies. The design and use of contemporary information and communication technology dramatically shape how democracy plays out. This course will ask you to confront this tangle of interests, identity, technology, and power. You will ask yourselves: What is my role and responsibility as a citizen? as an engineer? as a member of the Olin community? And you will find ways to make the spaces you live and work in more democratic. You will practice using your voice and influence to make change through public narrative, collective action, and media.

AHSE1199-02: Arts, Humanities, Social Science Foundation

Infrastructure Studies – FULLY REMOTE

Instructor: Chachra

Credits: 4 AHS

Registration note: AHS FOUNDATION; restricted to first year students

We live our lives embedded in systems that help take care of many of our basic needs, as well as some that are not so basic: warmth (or cooling), clean water, hygiene, and communications. At the same time, these systems provide the technological context for our engineering work. But we rarely notice infrastructure until something goes wrong. In this course, we'll investigate the systems that surround us, including water, sewage, electricity, telecommunications, transport, and more. We'll start thinking more broadly about infrastructure, asking questions like "what makes a system 'infrastructure', and why?". To do this, we'll draw from a wide range of fields and materials, from scholarly essays to videogames. And we'll consider our collective future: how might we make infrastructural systems more sustainable, resilient, and equitable? By the end of the semester, you will have a new awareness and understanding of these systems that underpin our lives and engineering work, and you will have the opportunity to document and share your own exploration of these systems.

AHSE1199-03: Arts, Humanities, Social Science Foundation

Singular Voices, Dual Lives: Nabokov, Leonardo, Bach, Borodin – FULLY REMOTE

Instructor: Dabby

Credits: 4 AHS

Hours: 3-0-9

Registration note: AHS FOUNDATION; restricted to first year students

To what extent have artists exhibited extraordinary knowledge and ability in science and engineering? Do these necessarily infuse their art, and if so, how? Artists in the fields of literature, art, and music include Vladimir Nabokov (writer and lepidopterist), Leonardo da Vinci (artist and engineer), Alexander Borodin (composer and chemist), and J. S. Bach (composer, performer, and acoustician). Each achieved a self-sufficiency enabling the articulation and activation of work that reveals an inimitable signature; in short, an entrepreneurial streak runs through their lives, fueled by their individual voices and the remarkable ingenuity resulting from their dual professions. In-class and out-of-class activities focus on student scholarly and creative work, with special attention paid to original source documents, e.g., Leonardo's Notebooks. Students will have the opportunity to realize projects in the arts and sciences, thus experiencing firsthand the satisfaction and challenges faced by Bach, Borodin, Nabokov, and Leonardo in their desire for knowledge, discovery, and creative expression.

AHSE1199-04: Arts, Humanities, Social Science Foundation

Writers' Workshop: Creativity and the Literary Imagination – FULLY REMOTE

Instructor: Caitrin Lynch

Credits: 4 AHS

Registration note: AHS FOUNDATION; restricted to first year students

This class explores what it means to be human through the lens of literature and creative writing. Students will become better writers because they will become better readers, and better readers because they will become better writers. We will explore literary short fiction by reading a diverse array of well-regarded American short stories written in the 21st and 20th centuries, as well as some additional works by writers about language and the writing process. We'll read closely and talk about the components of fiction such as description, word choice, dialogue, point of view, tense, place, humor, and context. Students will complete a series of analytical and creative writing assignments, and pursue their own projects, some of which they'll share with the class. We'll practice receiving and giving feedback, both privately and during class discussions, debates, and presentations. There will be emphasis on experimentation, drafting, and revision. No prior experience in creative writing is required. We believe that strong writing is a skill that can be developed through ongoing experimentation, practice, feedback, and revision. The wider context for the class is the notion of understanding people in order to do engineering "for the good of the world" (which is in Olin's founding precepts!).

AHSE2199A-01: Special Topics in Arts, Humanities and Social Science

Democracy in Action: Election2020 – FULLY REMOTE

Instructor: Lynch, Martello

Credits: 4 AHS

Registration notes: AHS elective.

"Democracy cannot succeed unless those who express their choice are prepared to choose wisely. The real safeguard of democracy, therefore, is education." — Franklin D. Roosevelt

Throughout the fall 2020 semester, all members of the Olin community, and indeed, all Americans, will experience a presidential election guaranteed to yield long-term, global impacts that will transform our present and future society. By enrolling in this course, you will have the opportunity to explore the issues and events of this election as they unfold, while also contextualizing the significance of this election in the nation's history. Leveraging historical and contemporary sources, as well as methods and sources from history and anthropology, the course will include hands-on exploration of issues central to the campaigns of the major candidates (e.g., immigration, race, jobs, health care, education); daily news and election developments; the context and history of elections in general (What is our system, How does it work, Why?); voter participation and activism; and "six elections that changed the world." Students will stay current on the election, involve the Olin community in the process, and conduct present-day and historical research on this and past U.S. elections and electoral processes. Anthropologist Margaret Mead is often credited with saying, "Never doubt that a small group of thoughtful, committed citizens can change the world: indeed, it's the only thing that ever has." Join Rob Martello and Caitrin Lynch this fall, and take an informed, active role in American democracy.

Democracy in Action is a 4-credit AHS course jointly taught by Rob Martello (history) and Caitrin Lynch (anthropology). The interdisciplinary approach will enable this course to support a wide range of AHS Concentrations. It will only be offered once every four years, and at least in this first incarnation it will be offered with EG grading. Enrollment is not capped - all interested students are invited to join.

AHSE2199B-01: Special Topics in Arts, Humanities and Social Science

***Weaving the Future: New Ideologies for Making* – FULLY REMOTE**

Instructor: Keizer

Credits: 4 AHS

Registration notes: AHS elective.

This course invites students to explore new ideologies of making. An *ideology of making* is a set of principles and values by which decisions about design, fabrication, and use are made. These often unspoken ideas and values establish the conditions of possibility for making within a culture. Ideologies of making determine how designers/engineers within any given cultural system will set priorities for imagining and crafting objects and processes. *Weaving the Future* seeks to highlight and to imagine new and potentially liberatory ideologies and practices of making.

A deep investigation of any cultural system can yield answers to the following questions: Is the system oriented toward design for necessity or for luxury? Whose problems are prioritized within the system? Who is the ideal imagined user of the system, and are products and processes subsequently modified to serve marginalized users? Or do marginalized users have to hack the system to get it to work for them? Does the solving of problems govern the system, or is it oriented toward the attainment of other goals? What determines whether or not an object/product/process will be deemed a success?

Weaving the Future will offer students these opportunities: reading and discussing essays about practice by artists, designers, philosophers, and creative writers; thinking together about how one extrapolates an ideology of making from the stories and products of a culture; meditating upon what students believe their design ideologies to be at the beginning of our work and how they change (if they change); asking how a change in an ideology of making might change the objects one makes or the processes one decides to invent or alter; and thinking deeply about collaboration and what might make it function or fail.

Students would be free to choose the alternative design ideologies that appealed to them most, whether from their own ethnic/cultural backgrounds, from queer and feminist cultures, from radical labor history, or from elsewhere, including utopian or fantasy literature. The only requirement would be that students take seriously the work of learning deeply about another culture as part of developing a new ideology of making. The practice of weaving will form the basis of our investigations. Students will research different design ideologies, prototype a woven object, reflect upon and write about the philosophy underlying the object, and then dive back into the prototyping cycle.

AHSE2199C-01: Special Topics in Arts, Humanities and Social Science

***Connecting with Stories* – FULLY REMOTE**

Instructors: Adler, Epstein

Credits: 4 AHS

Hours: 4-0-8

Registration notes: AHS elective.

Creating stories offers us the chance to connect with ourselves as a work in progress, weaving together our past, present, and future to access and explore meaning in powerful and potentially transformative ways. **Sharing stories offers us the chance to connect as a community**, allowing other perspectives, experiences, and voices to be felt and heard.

In this deeply challenging time we are experiencing in our shared history, storytelling's power to piece together meaning and increase empathy feels more important than ever. Storytelling can play a pivotal role in encouraging our community (students, faculty, and staff) to come together for creative documentation, reflection and sense-making during this unique period in global history.

To foster connection through storytelling, this course has both an **individual** and a **community** focus. We aim to offer each course participant an artistically intensive opportunity to use storytelling as means to personally explore this current moment

in time. Participants will engage in an iterative, scaffolded storytelling project, culminating in a community performance. Course enrollment will be open to a small number of interested faculty and staff, as well as students. In parallel with the core course content, we will host weekly events open to the entire Olin community that offer additional opportunities to explore storytelling as a means of making sense of this shared moment. Community sessions will provide creative, accessible ways to explore and experiment with the craft of storytelling, and expand opportunities for more voices and stories to be heard.

Course participants will:

- Explore the social scientific literature on narrative as a tool for identity development and explore literary theory concepts about how stories shape the self;
- Explore a range of artistic examples of well-told stories;
- Choose to develop either a story slam piece or a theatrical monologue piece featuring personal narrative inspired by their lived experience of this current time;
- Perform the story slam piece at Candidates' Weekends and the Olin Community Story Slam; or perform the theatrical monologue in an innovative live (in-person and virtual) production;
- Co-design and co-facilitate at least one of our weekly "Connecting with Stories" community explorations, where the entire Olin community is invited to participate in exploring, developing, and/or sharing stories.

ENGR2299-01: Special Topics in Design Engineering

Creativity Practicum – FACULTY REMOTE

Instructor: Hendren

Credits: 4 ENGR

Hours: 4-0-8

*Registration notes: Design Elective; may be taken **BEFORE** UOCD. In order to make this course available to sophomores, a limited number of seats will be available to juniors and seniors until after sophomores have had an opportunity to register.*

A combination of Foundational Aesthetics and Mixed Media Studio in which students explore and develop an aesthetic vocabulary and voice through immersion, experience of place, hands-on making, presentation through multiple mediums and research of art history. This will be a studio course in which students wrestle with multiple materials and mediums to create work that facilitates their own sensory processing of the world around them as well as external-facing work created for communication with an outside audience.

Creativity Practicum is an introductory seminar and experiential, project-based on-ramp to understanding creative and expressive practices in the arts and design. Students will learn basic design principles and basic aesthetic theories; they will also gain vocabulary for understanding and evaluating the work of cultural forms (visual arts, literature/poetry, performing arts, graphic design, and more). With experiments and projects across multiple forms of media—visual, audio, digital, and performative—students will leave with a working vocabulary and wide exposure to the fine arts and design.

ENGR3199-01: Special Topics in Engineering:

Renewable Energy – FULLY REMOTE

Instructor: Vanasupa

Credits: 4 ENGR

Hours: 4-0-8

Prerequisite: all first year required courses.

Co-requisite: math at the level of QEA2 or Lin II

Registration note: May count as ECE or ME elective

One of the most significant challenges facing the people of the world is access to safe, affordable, sustainable power. Primary sources of renewable energy include solar photovoltaic, solar thermal, geothermal, hydroelectric and wind. In this class, we will explore the fundamental functioning and engineering implementation of renewable energy sources, including discussion of the grid and storage technologies (batteries) to mitigate intermittency. A systems-level exploration of emerging understanding and future opportunities for designing the impact of renewable energy technology on human populations, economic, social and political power structures will be included as an integral part of this class.

~~ENGR3299-01: Special Topics in Design: CANCELLED~~
~~Educational Design for College Science and Engineering Courses~~
~~Instructor: Zastavker~~

~~ENGR3499-01: Special Topics in Electrical and Computer Engineering: CANCELLED~~
~~Power Electronics~~
~~Instructor: Arnet~~

**ENGR3499: Special Topics in Electrical and Computer Engineering:
Microcontrollers for the Real World – FULLY REMOTE**

Instructor: Reifel
Credits: 4 ENGR
Hours: 4-0-8

Prerequisite: ENGR2110 Principles of Engineering

Registration notes: ECE elective

Website: <http://reifel.org/realworld/>

In this course, students will learn to design and build a real-world controller using modular components. The class will focus on the integration of a microcontroller with special purpose modules (such as power regulation, motion control, graphical display, audio generation, digital radio communication, environmental sensing) along with the software needed to control them. Each student will learn and use schematic capture, printed circuit board layout, and C programming in the construction of a controller board having the functionality of their choice. Students will choose one additional area of study to apply to their project: mechanical packaging, user interface design, or real-time control. This hands-on course is intended to work equally well for students on campus or remote. All instruction will be one-on-one via video link and allow some customization based on individual student interests, background and major. Teaching time will be individually selected. Students are required to own their hand tools. The list of tools is a subset of those already required for POE. Remote students (not on Olin campus) also need a soldering iron.

Learning Objectives:

At the end of this course, students will be able to:

- Define requirements and technical specifications for an engineered solution.
- Balance trade-offs and use informed choices when making design decisions.
- Use modern engineering tools in taking a technical specification through the design and implementation process.
- Convey design ideas and solutions through writing and graphical communication.
- Use an iterative process to revise and improve new designs.
- Assess and select appropriate components in designing control circuitry of moderate complexity.
- Consider all aspects of printed circuit board design including electrical, power, interconnection and physical mounting.

Who would benefit from this class:

- ECE students interested in learning printed circuit board design, and those wanting to gain more experience with microcontrollers and interfacing devices to them.
- ME students wanting to build professional controllers for mechanical projects, as this modular approach adds great functionality without needing extensive knowledge of discrete electronic components.
- Any student wanting more experience with electronics and microcontrollers.

~~ENGR3515-01: Special Topics in Computing: CANCELLED~~
~~Data Structures and Algorithms~~
~~Instructor: Paul~~

**ENGR3531-01 and MTH2131-01
Data Science – FULLY REMOTE**

Instructor: del Rosario
Credits: 2 ENGR + 2 MTH

Registration note: must register for both parts. Satisfies ProbStat requirement.

Course description for Fall 2020: Data Science is a powerful toolkit to extract usable insights from data. In this class, you

will learn tools and gain understanding. You will use software tools to *liberate* data from published images and tables, wrangle messy datasets into machine learning (ML)-ready form, fit and interpret ML models, and visualize to extract meaning. You will also speak the language of uncertainty—statistics—to avoid getting fooled by models. You will criticize published findings and ask what is, and what is not, in the data. Assignments will include regular practice exercises, progressively puzzling real-data challenges, and a final project of your choice where you obtain, wrangle, and understand a dataset.

All coding will be in the R programming language with the Tidyverse package: You will *not* need prior R language experience, as we will start from the ground and progress to fluency. Note that this 4-credit course is listed as two concurrent 2-credit ENGR and MTH courses to reflect its programming and statistics content. This course satisfies the probability and statistics requirement.

~~ENGR3599-01: Special Topics in Computing: Web Development~~ **CANCELLED: to be offered SP2021**
~~Instructor: Pucella~~

ENGX2010-01: Quantitative Engineering Analysis 2 – FULLY REMOTE

Instructors: Dusek, Lohmeyer, Malley, Tow
Credits: 2MTH, 1 ENGR, + 1 SCI

Quantitative Engineering Analysis 2 (QEA 2) is the second course in the 12-credit QEA sequence. The course will revisit, reinforce, and build upon the contextualized math, science, and engineering tools and skills developed during the first semester of QEA. Conceptual material in QEA 2 will draw from topics including ordinary differential equations, Fourier transforms, and equations of motion. QEA 2 will endeavor to place this foundational material in the broader engineering context, drawing connections to relevant examples and applications in engineering and beyond. The course will teach students how to select the appropriate set of tools and techniques for a given situation, ask critical questions about the consequences of their work, and develop the skills needed to acquire new knowledge beyond the course material.

Note: Quantitative Engineering Analysis 2 is a 4 credit course distributed as 2 MTH, 1 ENGR, and 1 SCI. This two-class, 12-credit sequence is a designated alternative for the following courses: Linearity 1 and Linearity 2, and the Physics Foundation course. Upon successful completion of both courses, the final credit distribution earned is 6 MTH, 4 SCI, 2 ENGR.

MTH2188A-01 and SCI2099A-01: Designated Alternative in Mathematics/Special Topics in Science: Decision-Making in Sustainable Systems – FULLY REMOTE

Instructor: Wood
Credits: 2MTH + 2SCI

Registration notes: must register for both parts. Satisfies ProbStat requirement.

This class will introduce you to a variety of quantitative decision-making systems and metrics, such as benefit-cost analysis, risk assessment, and life-cycle cost analysis, to supplement the technical and entrepreneurial decision-making tools you learn elsewhere throughout our curriculum.

You'll also learn about ways that our purely quantitative decision tools fall short of representing the real world and when they are still useful ("all models are wrong..."), and we'll explore some of the reasons that decision-making is so complicated.

Decision-making content will be situated in the context of complex systems and we'll return, throughout, to the decision objective of reaching sustainable outcomes (for contextually appropriate definitions of "sustainable"). The semester will center on how we can ultimately make decisions in a world of tradeoffs, taking advantage of widely used tools along with recognition of systemic complexity, context, and the messiness of human nature.

~~MTH2199-01: Special Topics in Mathematics: Optimization~~ **CANCELLED**
~~Instructor: Houston-Edwards~~

SCI1299-01: Biology Foundation Topic:

What an Engineer Needs to Know and Why – FULLY REMOTE

Instructor: Donis-Keller

Credits: 4 SCI

Registration note: satisfies Biology foundation requirement

This course is intended for engineering students and it interrogates the subject of biology with a focus on what an Olin engineer needs to know and why it is important to understand biological concepts and how they apply to everyday life on our planet as well as how an engineer might employ biological knowledge and research methods for engineering applications. The course is fundamentally project oriented and focused on important questions faced by Olin engineers as citizens, creative developers of technology and stewards of the environment of planet earth. Student-directed final projects will figure prominently in the course as individuals or teams decide what is really important for an authentic biological experience to share with the Olin community.

We will consider topics such as the science and applications of genome analysis and the inherent ethical implications of manipulation of the genomes of humans and other biological organisms. Some of the questions include: Who owns your genome and what do we mean by genetic privacy? Why not clone humans? What are anti-vaccine movements and why are they dangerous with respect to human health? We will study the development of the 2019-2020 coronavirus caused covid-19 pandemic and what is needed to prepare for the next inevitable pandemic. How does climate change relate to pandemics? How might an engineer best approach these issues?

Hands-on experience with technologies in the laboratory includes the use of the scanning electron microscope to examine biological specimens, sequencing your own genes, e.g. sequencing a gene for human taste and learning what the DNA tells you about yourself, identifying new viruses of soil bacteria, performing cutting edge technologies such as CRISPR gene editing, video and photography projects to document and inspire support of biology and conserving our planet.

This course fulfills the biology requirement at Olin and includes a lab-based experience.

SCI1420-01: Metals, Mining, and the Environment – FULLY REMOTE

Instructor: Stolk

Credits: 4 SCI

Updated course description for Fall 2020 only: This course explores materials science through the lens of metallic materials and their environmental and social impacts. From iron and aluminum in mechanical structures, to cobalt and rare earth metals in electronics and renewable energy applications, today's technologies rely on metals and alloys for their unique physical and chemical properties. Metals are part of a larger technological system, however, with complex social, environmental, political, economic, and ethical implications. Through a series of analytical assignments and projects, students in this class will explore the technical processing, microstructure, and behaviors of metallic materials, while researching and discussing sustainability issues related to mining operations, raw material processing, and recycling and disposal. We will critically examine the social and environmental costs of the metals industry and metallic products, and consider our professional and ethical responsibilities as scientists, engineers, designers and global citizens to address larger problems or initiate positive change. Students will implement self-directed project plans guided by their own interests and goals, and produce a range of project deliverables that reflect an interdisciplinary understanding of metallic materials and their impacts.

SCI1440 Materials Creation, Consumption, and Impact – FULLY REMOTE

Instructor: Stolk

Credits: 4 SCI

Updated course description for Fall 2020 only: This course provides an introduction to materials science and solid-state chemistry through exploration of the materials we encounter in our everyday lives. Through a series of analytical assignments and projects, students explore materials-related questions that are personally interesting and culturally relevant. Assignments integrate concepts and questions about the impacts of materials on our world, e.g., the toxicity of materials in consumer products, the energy of material processing, the recyclability or biodegradability of common plastics, or the social impacts of extractive industries. The self-directed project work, combined with structured assignments, enable students to think critically about the connections among material chemistry, structure, processing, properties, and impacts. A variety of project deliverables - posters, presentations, and reports - help students gain skills in synthesizing, contextualizing, and communicating ideas and insights. In short, this course enables students to explain how materials behave, why they behave that way, and why it matters for maximizing technical performance or minimizing negative impacts on our world.

Didn't find the course you're looking for? Check the course browser at https://my.olin.edu/ICS/Course_Schedules.jnz

Area	Course #	Sect #	Course Title	Instructor / Teaching Team	Time	Delivery Mode	Credits	Enroll Limits	Waitlist	Notes	Curriculum Category
AHS	AHSE0112	01	AHSE0112: The Olin Conductorless Orchestra: Building a Community of Practice	Dabby, Diana	R 6-8pm	Fully Remote	1	no cap	no	New Description available in the Supplement	AHS Elective
AHS	AHSE2199A	01	AHSE2199A: Special Topics in Arts, Humanities and Social Science: Democracy in Action: Election2020	Lynch, Cairtin; Martello, Rob	Tues & Fri 10-11:30am	Fully Remote	4	no cap	no	Experimental Grading	AHS Elective
AHS	AHSE2199B	01	AHSE2199B: Special Topics in Arts, Humanities and Social Science: Weaving the Future: New Ideologies of Making	Keizer, Arlene	MW 2-3:30pm	Fully Remote	4	35	yes		AHS Elective
AHS	AHSE2199C	01	AHSE2199C: Special Topics in Arts, Humanities and Social Science: Connecting with Stories	Adler, Jon; Epstein, Gillian	TR 10-11:30am	Fully Remote	4	20	yes	NEW; offered with Experimental Grading; some work may be required during ext lunch block	AHS Elective
AHS	AHSE3190	01	AHSE3190: Arts, Humanities, Social Science Preystone	Epstein, Gillian	n/a	Fully Remote	1	50	n/a		AHS Capstone Prereq
CAPSTONE	ENGR4190	01	ENGR4190: SCOPE: Senior Capstone Program in Engineering	Ferzoco, Alessandra; Hersey, Scott; Sarang-Sieminski, Alisha; Stein, Lynn; Woodard, Jason	TR 8-10am; F 12-5pm	Faculty Remote	4	90	n/a	Registration handled by Capstone Program	CAPSTONE
CAPSTONE	ENGR4290	01	ENGR4290: Affordable Design and Entrepreneurship Engineering Capstone	Graeff, Erhardt; Hersey, Scott; Linder, Ben; Taha, Kofi, Johansen, Elizabeth	T 3:30-6:30pm; R 3:30-5:30pm	Faculty Remote	4	15	yes, small	Registration handled by Capstone Program	CAPSTONE
DSN	ENGR2299	01	ENGR2299: Special Topics in Design Engineering: Creativity Practicum	Hendren, Sara	TR 2-3:30pm	Faculty Remote	4	24	yes	New	ELECTIVE
DSN	ENGR3220	01	ENGR3220: User Experience Design	Morales, Marco	MW 4-5:30pm	Fully Remote	4	28	yes, small		DSN Depth
DSN	ENGR3240	01	ENGR3240: Tell the Story of What You Make	Ferguson Sauder, Tim	MW 9-11:30am	Fully Remote	4	30	yes, small		DSN Depth
DSN	ENGR3260	01	ENGR3260: Design for Manufacturing	Barrett, Dave; Faas, Daniela	TR 2-3:30pm	Faculty or Fully Remote	4	20	yes, large		ME Elective Design Depth
DSN	ENGR3260 L	A B	Design for Manufacturing LAB	Barrett, Dave; Faas, Daniela	Lab A: M 10-11:00am Lab B: T 10-11:00am	Faculty or Fully Remote	0	10 in each Lab	yes, large	Student must elect lab A OR B, not both along with the standard TR 2-3:30pm time	ME Elective Design Depth

Area	Course #	Sect #	Course Title	Instructor / Teaching Team	Time	Delivery Mode	Credits	Enroll Limits	Waitlist	Notes	Curriculum Category
DSN	ENGR3290	01	ENGR3290: Affordable Design and Entrepreneurship	Graeff, Erhardt; Hersey, Scott; Linder, Ben; Taha, Kofi, Johansen, Elizabeth	T 3:30-6:30pm; R 3:30-5:30pm	Faculty Remote	4	15	yes, large		DSN Depth
E:C	ENGR2510	01	ENGR2510: Software Design	Matsumoto, Steve	TR 10-11:30am	Fully Remote	4	28	yes, small		E:C Requirement and ECE Requirement
E:C	ENGR3520	01	ENGR3520: Foundations of Computer Science	Pucella, Riccardo	MW 10-11:30am	Fully Remote	4	32	yes		E:C Core
E:C	ENGR3531_and_MTH2131	01	ENGR3531_and_MTH2131: Data Science	del Rosario, Zach	TR 2-3:30pm	Fully Remote	2+2	24	yes	Satisfies ProbStat Requirement	ProbStat_E:Computing
E:Robo	ENGR3590	01	ENGR3590: A Computational Introduction to Robotics	Malley, Melinda; Ruvolo, Paul	MW 12-1:30pm	Fully Remote	4	30	yes, small		Core E:Robo
ECE	ENGR2420	01	ENGR2420: Intro Microelectronic Circuits with laboratory	Minch, Brad	TR 2-3:30pm	Fully Remote	4	32	yes	New Addition to Schedule	ECE Requirement
ECE	ENGR3410	01	ENGR3410: Computer Architecture	Tse, Jonathan	TR 12-1:30pm	Fully Remote	4	36	yes, small		ECE Requirement and E:C Elective
ECE	ENGR3420	01	ENGR3420: Introduction to Analog and Digital Communication	Lohmeyer, Whitney	MW 12-1:30pm	Fully Remote	4	32	yes, small		ECE Elective
ECE	ENGR3499	02	ENGR3499: Special Topics in Electrical and Computer Engineering: <i>Microcontrollers for the Real World</i>	Reifel, Stan	W 6-7:30pm if needed; Mostly Self Scheduled with Instructor	Fully Remote	4	12	yes, small	New Addition to Schedule	ECE Elective
ENGR	ENGR3199	01	ENGR3199: Special Topics in Engineering: Renewable Energy	Vanasupa, Linda	MW 12-1:30pm	Fully Remote	4	32	yes, large		ECE Elective ME Elective
ENTRP	AHSE2515	01	AHSE2515: Iterate	Neeley, Lawrence	MW 2-3:30pm	Fully Remote	2	24	yes, small	Session I: 9/8/20-10/26/2020	E! Elective
ENTRP	AHSE2515A	01	AHSE2515A: Iterate	Neeley, Lawrence	MW 2-3:30pm	Fully Remote	2	24	yes, small	Session II: 10/28/2020 - 12/14/2020	E! Elective

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FYR	OIE1000	01	OIE1000: Olin First Year Introduction (OFYI)	Waranyuwat, Adva	T 4-5:30pm	Mixed	1	90	n/a	Available to First Year Students Only	First Year Only
FYR: AHS	AHSE1100	01	AHSE1100: History of Technology: A Cultural & Contextual Approach	Martello, Rob	TR 2-3:30pm	Fully Remote	4	16	no	Available to First Year Students Only	AHS Foundation
FYR: AHS	AHSE1155	01	AHSE1155: Identity from the Mind & the Brain: Who Am I and How Do I Know	Adler, Jon	TR 2-3:30pm	Fully Remote	4	16	no	Available to First Year Students Only	AHS Foundation
FYR: AHS	AHSE1199	01	AHSE1199: Arts, Humanities, Social Science Foundation: Democracy and Media	Graeff, Erhardt	TR 2-3:30pm	Fully Remote	4	16	no	Available to First Year Students Only	AHS Foundation
FYR: AHS	AHSE1199	03	AHSE1199: Singular Voices, Dual Lives: Nabokov, Leonardo, Bach, Borodin	Dabby, Diana	TR 2-3:30pm	Fully Remote	4	16	yes, small	Available to First Year Students Only	AHS Foundation
FYR: AHS	AHSE1199	02	AHSE1199: Arts, Humanities, Social Science Foundation: Infrastructure Studies	Chachra, Debbie	TR 2-3:30pm	Fully Remote	4	16	yes, small	Available to First Year Students Only	AHS Foundation
FYR: AHS	AHSE1199	04	AHSE1199: Arts, Humanities, Social Science Foundation: Writers' Workshop: Creativity and the Literary Imagination	Lynch, Caitrin	TR 7:30-9:00am	Fully Remote	4	5	yes, small	Available to First Year Students Only	AHS Foundation
FYR: ENGR	ENGR1200	01	ENGR1200: Design Nature	Edmonds, Tess; Ferguson Sauder, Tim; Linder, Ben; Zastavker, Yevgeniya	MW 1-4:00pm	Faculty Remote	4	86	no		Design Foundation
FYR: Interdisciplinary	ENGX2000	01	ENGX2000: Quantitative Engineering Analysis 1a	Geddes, John; Govindasamy, Siddhartan; Ruvolo, Paul; Somerville, Mark	TR 10-11:30am	Fully Remote	4	86	n/a		Requirement, FYR
FYR: Interdisciplinary	MTH1111_and_SCI1111	01	MTH1111_and_SCI1111: Modeling and Simulation of the Physical World	del Rosario, Zachary; Wood, Alison; Woodard, Jason	MWF 10-11:30am	Fully Remote	2+2	86	no		Modeling Foundation
Interdisciplinary	ENGX2010	01	ENGX2010: Quantitative Engineering Analysis 2	Dusek, Jeff; Lohmeyer, Whitney; Malley, Melinda; Tow, Emily	MW 2-3:30pm	Fully Remote	4	90	n/a	Credit breakdown: 2 Math, 1 Science, 1 Engineering	Requirement, 2nd Yr
Interdisciplinary	MTH2188A_and_SCI2099A	01	MTH2188A_and_SCI2099A: Decision-Making in Sustainable Systems	Wood, Alison	MW 2-3:30pm	Fully Remote	2+2	30	yes, large	Satisfies ProbStat Requirement	ProbStat

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ME	ENGR2320	01	ENGR2320: Mechanics of Solids & Structures	Storey, Brian	TR 2-3:30pm	Fully Remote	4	40	yes	New Addition to Schedule	ME Requirement
ME	ENGR3310	01	ENGR3310: Transport Phenomena	Tow, Emily	MW 10-11:30am	Fully Remote	4	48	yes, small		ME Requirement
ME	ENGR3330	01	ENGR3330: Mechanical Design	Barrett, Dave	TR 12-1:30pm	Fully Remote	4	32	yes, small		ME Requirement
MTH	MTH2110	01	MTH2110: Discrete Math	Spence Adams, Sarah	MW 12-1:30pm	Faculty or Fully Remote	4	36	yes, large		Advanced Math
MTH	MTH2110	02	MTH2110: Discrete Math	Spence Adams, Sarah	MW 2-3:30pm	Faculty or Fully Remote	4	36	yes, large		Advanced Math
SCI	SCI1240	01	SCI1240: Designing Better Drugs with Laboratory	Pratt, Joanne	MW 10-11:30am	Fully Remote	4	32	yes, large		BIO Foundation
SCI	SCI1299	01	SCI1299: Biology Foundation Topic: What an engineer needs to know and why	Donis-Keller, Helen	TR 10-11:30am T 4-7pm Lab	Fully Remote	4	24	yes, large		BIO Foundation
SCI	SCI1420	01	SCI1420: Metals, Mining and the Environment	Stolk, Jon	MW 4-6:00pm	Fully Remote	4	25	yes, large		MatSci/Chem/Envr Engr Requirement
SCI	SCI1440	01	SCI1440: Materials Creation, Consumption, and Impact	Stolk, Jon	TR 4-6:00pm	Fully Remote	4	25	yes, large		MatSci/Chem/Envr Engr Requirement
Sustainability (BOW)	SUST3301	01	SUST3301: Sustainability Synthesis	Huang, Jean	M 3:30-6:30pm	Fully Remote	4	45 (15 per school)	yes, small		Elective
XADMIN	AWAY1000	01	Study Away Program	Administration	n/a		12	n/a	n/a	Enroll in this course block to confirm your Study Away Semester	
XADMIN	OIP1000	01	The Olin Internship Practicum I	Phelps, Sally	n/a		1	n/a	n/a	See Post Graduate Planning to Enroll	

Area	Course #	Sect #	Course Title	Instructor / Teaching Team	Time	Delivery Mode	Credits	Enroll Limits	Waitlist	Notes	Curriculum Category
XADMIN	OIP1001	01	The Olin Internship Practicum II	Phelps, Sally	n/a		1	n/a	n/a	See Post Graduate Planning to Enroll	

Color Key: Offering Blocks/ Del Mode	ECE		ME		ENGR / DSN Courses		ENGR/Foundation Requirement		Delivery Modes		FULLY REMOTE	FACULTY REMOTE	MIXED					
	Monday				Tuesday				Wednesday									
8:00 AM						AHSE 1199-04 Special Topics AHSE: Writers' Workshop: Creativity and the Literary Imagination TR 7:30-9:00am FULLY REMOTE			ENGR 4190 SCOPE FACULTY REMOTE									
9:30 AM					ENGR 3240 Tell the Story of What You Make MW 9-11:30								ENGR 3240 Tell the Story of What You Make MW 9-11:30					
10:00 AM	ENGR 3260 L LAB Design for Manufacturing LAB A Monday 10- 11:00 am	MTH 1111/ SCI 1111-01 ModSim	ENGR 3310 Transport Phenomena	SCI 1240 Designing Better Drugs	ENGR3520/ Foundations of Computer Science	ENGR 3260 LAB Design for Manufacturing LAB B Tuesday 10- 11:00am	SCI 1299 Bio Foundation: What an engineer needs to know and why Lecture	AHSE 2199C Special Topics AHSE: Connecting with Stories	ENXG2000 Quantitative Engineering Analysis 1a	ENGR 2510 Software Design	AHSE 2199A Special Topics AHSE: Democracy in Action: Election2020 Tues Fri 10-11:30	MTH 1111/ SCI 1111-01 ModSim	ENGR 3310 Transport Phenomena	SCI 1240 Designing Better Drugs Lecture	ENGR3520: Foundations of Computer Science			
11:30 AM		FULLY REMOTE	FULLY REMOTE	FULLY REMOTE	FULLY REMOTE	FULLY REMOTE	FULLY REMOTE	FULLY REMOTE	FULLY REMOTE	FULLY REMOTE	FULLY REMOTE	FULLY REMOTE	FULLY REMOTE	FULLY REMOTE	FULLY REMOTE			
12:00 PM			MTH 2110-01 Discrete Math FACULTY REMOTE	ENGR 3199 Spec. Top ENGR: Renewable Energy	ENGR 3420 Intro Analog and Digital Communication	ENGR 3590 Computational Introduction to Robotics			ENGR 3330 Mechanical Design	ENGR 3410 Computer Architecture			MTH 2110-01 Discrete Math FACULTY REMOTE	ENGR 3199 Spec. Top ENGR: Renewable Energy	ENGR 3420 Intro Analog and Digital Communication	ENGR 3590 Computational Introduction to Robotics		
1:30 PM		ENGR 1200 ALL Sections Design Nature FACULTY REMOTE	FULLY REMOTE	FULLY REMOTE	FULLY REMOTE	FULLY REMOTE			FULLY REMOTE	FULLY REMOTE			ENGR 1200 ALL Sections Design Nature FACULTY REMOTE	FULLY REMOTE	FULLY REMOTE	FULLY REMOTE		
2:00 PM	MTH 2110-02 Discrete Math FACULTY REMOTE	All sections: 1:00 - 4:00pm FACULTY REMOTE	MTH 2188A and SCI 2099A Decision-Making in Sustainable Systems FULLY REMOTE	ENXG 2010 Quantitative Engineering Analysis 2	AHSE 2515 Session I: Iterate AHSE 2515A Session II: Iterate	AHSE 2199B Special Topics AHSE: Weaving the Future: New Ideologies of Making	ENGR2299: Creativity Practicum	ENGR2320 Mech Solids	ENGR2420 Intro MicroElect Circuits	AHSE 1199-03: AHS Find Topics: Singular Voices, Dual Lives AHSE 1199: Identity from the Mind and the Brain AHSE 1199-01 AHS Find Topics: Democracy & Media AHSE 1199: History of Technology: A Cultural & Contextual Approach AHSE 1199-02 AHS Find Topics: Infrastructure Studies	ENGR 3531 and MTH 2131: Data Science	ENGR 3260 Design for Manufacturing FACULTY REMOTE	All sections: 1:00 - 4:00pm FACULTY REMOTE	MTH 2110-02 Discrete Math FACULTY REMOTE	MTH 2188A and SCI 2099A Decision- Making in Sustainable Systems FULLY REMOTE	ENXG 2010 Quantitative Engineering Analysis 2	AHSE 2515 Session I: Iterate AHSE 2515A Session II: Iterate	AHSE 2199B Special Topics AHSE: Weaving the Future: New Ideologies of Making
3:30 PM																		
4:00 PM			SUST 3301 Sustainability Synthesis M 3:31-6:30	SCI 1420 Metals, Mining and the Environment MW 4-6	ENGR 3220 User Experience Design MW 4-6			OIE1000 Olin First Year Introduction (OFY)	SCI 1299 Bio Foundation: What an engineer needs to know and why Lab T 4-7	SCI 1440 Materials Creation, Consumption and Impact TR 4-6	ENGR 3290 & 4290 Affordable Design & Entrp Tues 3:31-6:30p Thurs 3:31- 5:30p				SCI 1420 Metals, Mining and the Environment MW 4-6	ENGR 3220 User Experience Design FULLY REMOTE		
5:30 PM																		
6:00 PM					FULLY REMOTE	FULLY REMOTE												
7:30 PM														ENGR 3499 Special Topics in Elec & Comp Eng: Microcontrollers Real World W 6-7:30pm if needed - MOSTLY Self scheduled with Instructor FULLY REMOTE				

AHSE		SCI		Math		INTEGRATED OFFERING (colored via discipline blending)		
Thursday				Friday				Color Key: Offering Blocks
AHSE 1199-04 Special Topics AHSE: Writers Workshop: Creativity and the Literary Imagination TR 7:30-9:00am FULLY REMOTE				ENGR 4190 SCOPE FACULTY REMOTE		ACADEMIC LIFE MTGs 8:30-10am		8:00 AM
								9:30 AM
SCI 1299 Bio Foundation: What an engineer needs to know and why FULLY REMOTE	AHSE 2199C Special Topics AHSE: Connecting with Stories FULLY REMOTE	ENGX2000 Quantitative Engineering Analysis 1a FULLY REMOTE	ENGR 2510 Software Design FULLY REMOTE			MTH 1111/ SCI 1111 -01 ModSem FULLY REMOTE	AHSE 2199A Special Topics AHSE: Democracy in Action: Election2020 Tues Fri 10-11:30 FULLY REMOTE	10:00 AM
								11:30 AM
				ENGR 3330 Mechanical Design FULLY REMOTE	ENGR 3410 Computer Architecture FULLY REMOTE			12:00 PM
								1:30 PM
ENGR2299: Creativity Practicum FACULTY REMOTE	ENGR2320 Mech Solids FULLY REMOTE	ENGR2420 Intro MicroElect Circuits FULLY REMOTE	AHSE1199-03: AHS Fnd Topics: Singular Voices, Dual Lives AHSE 1155 Identity from the Mind and the Brain AHSE 1199-01 AHS Fnd Topics: Democracy & Media AHSE 1199 History of Technology: A Cultural & Contextual Approach AHSE 1199-02 AHS Fnd Topics: Infrastructure Studies FULLY REMOTE	ENGR 3531 and MTH 2121: Data Science FULLY REMOTE	ENGR3260 Design for Manufacturing FACULTY REMOTE	ENGR 4190 SCOPE F 12-5 FACULTY REMOTE		2:00 PM
								3:30 PM
				SCI 1440 Materials Creation, Consumption and Impact TR 4-6 FULLY REMOTE	ENGR 3290 & 4290 ADE Tues 3:31-6:30p Thurs 3:31-6:30p FACULTY REMOTE			4:00 PM
								5:30 PM
AHSE 0112 Olin Conductorless Orchestra Thurs: 6:00-8:00pm FULLY REMOTE								6:00 PM
								7:30 PM