99-352 IDeATe: Soft Fabrication Skills
Fall and Spring: 1 unit
PLEASE NOTE: The specific meeting dates for the A1 section of this micro course are Sep 16, Sep 23, Sep 30. Textiles are a ubiquitous part of our everyday tactile experience. This workshop series aims to introduce textile techniques to participants with diverse backgrounds across the CMU campus. The fabrication skills and concepts that will be covered in this course will be taught from an interdisciplinary approach to merge practices in arts and technology. Students will learn methods of working with fabric such as hand and machine sewing, felting and knitting, along with merging aspects of digital fabrication and physical computing using flexible materials. Through discussions and demos, participants will have the opportunity to explore new methods of fabrication to integrate into their own practice.

Course Website: https://courses.ideate.cmu.edu/99-352 (https://courses.ideate.cmu.edu/99-352/)

99-353 IDeATe: Design Essentials for Laser Cutting
Fall and Spring: 1 unit
PLEASE NOTE: The specific meeting dates for the A1 section of this micro course are Sep 23, Sep 30, Oct 7. The specific meeting dates for the A2 section of this micro course are Oct 29, Nov 5, Nov 12. This mini course is designed to get students ready to use a laser cutter. We will cover essential design considerations unique to laser cutting, material tolerances, available methods of assembly and finishing techniques, but the bulk of the class time is spent hands-on learning to design and create a laser cutter ready vector file. The primary software we use is Adobe Illustrator, with some time also spent in Photoshop for learning how to integrate raster images like photos and drawings into lasercut objects. Over the three classes, we will also discuss 2D, 2.5D and 3D design basics, how to create tight joinery by understanding kerf, how to improve your photo engravings, and when switching software will save you a lot of time. Students who complete this course will be able to use the IDeATe facility’s laser cutters on their own for future course work or personal projects.

Course Website: https://courses.ideate.cmu.edu/99-353 (https://courses.ideate.cmu.edu/99-353/)

99-355 IDeATe: Introduction to Arduino
Fall and Spring: 1 unit
PLEASE NOTE: The specific meeting dates for the A1 section of this micro course are Sep 22, Sep 29, Oct 6. The specific meeting dates for the A2 section of this micro course are Oct 29, Nov 5, Nov 12. This workshop aims to demystify the Arduino microcontroller through hands-on work in the lab creating simple machines with embodied behaviors. The Arduino is a versatile resource for physical projects for students in all disciplines. This course brings students over the beginner’s threshold to a basic understanding of the use, terminology, and potential of the Arduino. The skills and concepts taught in this course are presented from an interdisciplinary approach which merges practices in arts and technology. The first portion will teach the essential skills for creating a simple sensor-driven physical computing system, and the second portion will reinforce those skills by making a simple interactive project. The course has no technical prerequisites, although uses a little bit of algebra-level math. Undergraduate students, graduate students, faculty and staff interested in learning new skills in an interdisciplinary environment are welcome!

Course Website: http://courses.ideate.cmu.edu/99-355 (http://courses.ideate.cmu.edu/99-355/)

99-356 IDeATe: Digital Media Literacies: Great World Challenge
Fall and Spring: 9 units
This course introduces students to new media for ethically finding, evaluating, producing and sharing artistic and scholarly innovations. It allows students the opportunity to gain practice with and exposure to tools, technologies and processes which support data analysis, visualization, communication, presentation and sharing through a variety of emerging and established dissemination channels. Students who excel in the course may be further supported in identifying and pursuing appropriate publication outlets for their research. The course will be of particular interest to students planning to engage in further undergraduate research opportunities.

99-357 IDeATe: Pragmatic Photography
Fall and Spring: 1 unit
PLEASE NOTE: The specific meeting dates for the A1 section of this micro course are Sep 24, Oct 1. The specific meeting dates for the A2 section of this micro course are Oct 28, Nov 4. Pragmatic Photography is a digital imaging course for the non-photographer. A tech-first approach provides a strong grounding in the core concepts and techniques of image-based media. This course will enable students to create photographs for project documentation. This class will not require special cameras or software; students will use commonly-available photo-editing software to create images using DSLRs, point and click cameras, or their cell phones. The course focuses on general principles that apply across different equipment and software.

99-361 IDeATe Portal
Spring: 9 units
Full descriptions of each section topic are available at https://courses.ideate.cmu.edu/99-361. IDeATe Portal courses introduce students to key aspects of critical, creative, and technical practice and prepare them to engage in productive interdisciplinary Collaborative Studio coursework in IDeATe minor areas. Section A: Inflatables students will focus on the design, fabrication, and creative applications of sculptural and inflatable forms created from soft materials. Section B: Intelligent Environments highlights the motivation and requirements for intelligent environments and components that could be used to add functionality to existing environments.

Course Website: https://courses.ideate.cmu.edu/99-361 (https://courses.ideate.cmu.edu/99-361/)

99-362 IDeATe: Intelligent Learning Spaces
Spring: 9 units
Intelligent Learning Spaces explores the interactions between human learning and the spaces in which learning occurs. In this project-based course, students discuss, analyze, define, and apply theory from education, architecture and the arts to their project work. Students investigate precedents and existing experiences to create their own learning manifests and designs. Imagination, in-class participation, speculation, empathy and 360-degree awareness are key components of this class. Students work on scaffolded projects that build on their knowledge to showcase their intentions and creativity, reacting to a variety of contexts relevant to learning. Students have opportunities to develop creative inquiry skills and apply critical perspectives through project-based work that requires experimentations, hands-on learning, reflection, and documentation.

99-363 IDeATe: Spatial Storytelling
Spring: 6 units
Spatial Storytelling promotes the use of digital storytelling methods and methodologies across disciplinary topics. In this Spring mini, students are guided through the process from identifying a research problem, collecting data from diverse sources, learning specific geospatial mapping tools, and finally crafting narrative. They will work with spatial information (geospatial data) to build complex multimodal narratives around social issues. By the end of this course, students will know: what are spatial data, how to find and identify different types of spatial data, how to create a story based on data, and how to analyze data in geospatial software. Students will be able to develop constructive critique and data literacy skills to critically review peer work across disciplinary topics. Using competencies gained over the semester, students will create an online interactive narrative and present it to the broader community.
99-382 Technology, Humanity, and Social Justice: Environment
Fall: 3 units
As humans rely more and more on electronic devices to support their everyday activities, there are ever present warnings about the impacts such reliance has on human autonomy ranging from who owns and controls information networks, the inequitable impact of technology consumption on peoples and places, varying accessibility of technology around the globe, and the promises and limitations of technology in improving human health. By engaging in technology as a lens, this sequence of weekend micro-courses encourages students to examine technology as a system disproportionately impacting humanity by enabling and constraining human rights of groups of people around the globe. With a multi-disciplinary focus, the course invites researchers and practitioners from the University of Pittsburgh, Carnegie Mellon, and relevant fields more broadly. In Fall 2023, the focus will be on the impact technology has on human health. This will include a discussion about technology’s impact on human interactions, including mental health amid a pandemic and changing working conditions. It will also include a focus on the accessibility and disparities on health cares increased reliance on technology across the globe as well as the transition to digitizing health records and the dangers this creates in relation to privacy. Added Note: The course will occur on Friday, Oct. 27th, Saturday, Oct. 28th, and Sunday, Oct. 29th. Engagement in the course should be synchronous; accommodations for those in significant time zone differences will be provided to allow enrollment and completion of all elements of the weekend. If a student is interested in the course but unable to engage in the course dates, please reach out to Korryn Mozisek (kmozisek@andrew.cmu.edu).

99-384 Technology, Humanity, and Social Justice: Environment
Intermittent: 3 units
As humans rely more and more on electronic devices to support their everyday activities, there are ever present warnings about the impacts such reliance has on human autonomy ranging from who owns and controls information networks, the inequitable impact of technology consumption on peoples and places, varying accessibility of technology around the globe, and the promises and limitations of technology in improving human health. By engaging in technology as a lens, this sequence of weekend micro-courses encourages students to examine technology as a system disproportionately impacting humanity by enabling and constraining human rights of groups of people around the globe. With a multi-disciplinary focus, the course invites researchers and practitioners from the University of Pittsburgh, Carnegie Mellon, and relevant fields more broadly. In Fall 2023, the focus will be on the impact technology has on human health. This will include a discussion about technology’s impact on human interactions, including mental health amid a pandemic and changing working conditions. It will also include a focus on the accessibility and disparities on health cares increased reliance on technology across the globe as well as the transition to digitizing health records and the dangers this creates in relation to privacy. Added Note: The course will occur on Friday, Oct. 27th, Saturday, Oct. 28th, and Sunday, Oct. 29th. Engagement in the course should be synchronous; accommodations for those in significant time zone differences will be provided to allow enrollment and completion of all elements of the weekend. If a student is interested in the course but unable to engage in the course dates, please reach out to Korryn Mozisek (kmozisek@andrew.cmu.edu).

99-520 Collaborative Research through Projects
Summer
This course has students engage in experiential learning via interdisciplinary projects around a variety of topics determined by each instructor. Students should review the lengthier descriptions for each section posted on the Office of the Vice Provost website under the Academic Resources tab to gain more knowledge of the projects and pre-requisites. https://docs.google.com/document/d/1JRQpsB150Bd-gWgrCuUXqCnE7JAp7H4mLehnNHylk/edit?usp=sharing
Course Website: https://docs.google.com/document/d/1JRQpsB150Bd-gWgrCuUXqCnE7JAp7H4mLehnNHylk/edit?usp=sharing

99-530 Senior Preparation Seminar
Fall and Spring: 6 units
This mini course provides graduating seniors a chance to reflect on their experiences as students at Carnegie Mellon; intellectually, socially and as leaders in this community. In addition to its reflective component, the course will also look at how to prepare for upcoming transitions into post college roles and responsibilities. The course explores interpersonal, interpersonal, and external factors at play for recent graduates.

99-784 Technology, Humanity, and Social Justice: Health
Intermittent: 3 units
As humans rely more and more on electronic devices to support their everyday activities, there are ever present warnings about the impacts such reliance has on human autonomy ranging from who owns and controls information networks, the inequitable impact of technology consumption on peoples and places, varying accessibility of technology around the globe, and the promises and limitations of technology in improving human health. By engaging in technology as a lens, this sequence of weekend micro-courses encourages students to examine technology as a system disproportionately impacting humanity by enabling and constraining human rights of groups of people around the globe. With a multi-disciplinary focus, the course invites researchers and practitioners from the University of Pittsburgh, Carnegie Mellon, and relevant fields more broadly. In Fall 2023, the focus will be on the impact technology has on human health. This will include a discussion about technology’s impact on human interactions, including mental health amid a pandemic and changing working conditions. It will also include a focus on the accessibility and disparities on health cares increased reliance on technology across the globe as well as the transition to digitizing health records and the dangers this creates in relation to privacy. Added Note: The course will occur on Friday, Oct. 27th, Saturday, Oct. 28th, and Sunday, Oct. 29th. Engagement in the course should be synchronous; accommodations for those in significant time zone differences will be provided to allow enrollment and completion of all elements of the weekend. If a student is interested in the course but unable to engage in the course dates, please reach out to Korryn Mozisek (kmozisek@andrew.cmu.edu).

99-409 Summer Research
Summer: 1 unit
This course allows undergraduate students from all fields to participate in research (including artistic/creative inquiry) under the direction of a Carnegie Mellon faculty member. Tenure track, teaching track, research track, librarian track, and special faculty may serve as research supervisors. Students should have previously participated in summer research via the Summer Undergraduate Research Apprenticeship and/or the Summer Undergraduate Research Fellowship before enrolling in 99-409 (students who are unsure of whether 99-409 is appropriate for them should consult with the Undergraduate Research Office). Students will need to complete a supervisor agreement form to be eligible for participation in this tuition-free 1-unit course. Students are responsible for finding research supervisors. In addition to the summer research with the faculty member, students will be expected to write a brief (one- to two-page) research report about their summer work. This course is not eligible for CPT for international students; please contact the Office for International Education for more information regarding CPT.