

**Mary Institute and
Saint Louis Country Day School**



**Upper School
Winter Term Curriculum Guide
January 2024**

101 North Warson Road, St. Louis, MO 63124

Upper School Winter Term Course Guide - January 2024

A SESSION

WT001: 3-2-1 Blast Off

Interested in flight? We will explore flight by building helicopters, airplanes, kites, and rockets, in addition to flying a drone. Come prepared for hands-on building experiences and friendly competition. Who wins? We'll determine the winner using statistics. You will engage with engineering design principles, properties of flight, and basic inferential statistics.

WT003: Adulting 101

This course will give students an introductory understanding of two major aspects of life in the adult world: 1. Owning and maintaining a vehicle and 2. Owning and maintaining a residence. During the two weeks of winter term students will have exposure to the process of purchasing (or leasing) a car and how to then properly license, insure, and maintain the vehicle. Students will also be exposed to these same factors for owning a home or leasing an apartment.

WT004: Agatha Christie's Murderous Mysteries

Agatha Christie, the master of mystery, wrote more than 60 murder mysteries that set the foundation for many mystery writers who followed after her. Come explore Christie's work and inspirations, dissect the murder mystery as a plot feature, and investigate the world Christie knew. Whether you're someone who likes to watch or read murder mysteries, or someone who sees themselves as the next big-name detective, you'll enjoy puzzling through the murderous mysteries of Agatha Christie.

WT005: Applied Math Winter Term

For Applied Math 1 students, the jump between the two semesters in terms of math content is substantial. The first semester consists of Right Triangle Trigonometry and Linear Equations – both of which simply build on concepts learned in the Middle School. Second semester is all new material – Function Notation, Inequalities, Domain and Range, Absolute Value Functions, and Quadratics. Moreover, Applied Math 1 students routinely report the benefit of Eliot Summer Academy. This Winter Term course is an extension/continuation of the ESA course.

WT006: Board Game Design

In this course, students will have the opportunity to learn and play a variety of modern tabletop board & card games, while learning about some of various mechanisms and design elements which make the games function. They will then have the chance to design their own board game prototype, incorporating elements of game theory, mathematics, narrative structure, and art to bring their game to life. The goal of this course is to give students exposure to the fast growing hobby of tabletop board gaming, while also providing a design-thinking framework to assist the creative process.

WT009: Come Etsy with Me!

Creativity comes in many forms so this course is open to all your wonderful talents & creativity. Come Etsy with me will allow you to draw from your creative side, but also will incorporate skills in marketing, design, budgeting, and community. After producing your product, our time together will culminate in a community craft show. Join us and let those creative talents make a difference!

WT010: Cook Anywhere!

In the course of your life, you'll likely need to cook in a variety of settings. Learn how to cook more than ramen and popcorn in your dorm room microwave or to work wonders in your tiny apartment toaster oven.

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Step away from the stovetop and oven to see what you can do with an Instant Pot or an air fryer. Learn how to build a proper fire and to take your camp kitchen game way past canned beans. Learn how to survive the zombie apocalypse in style with cooking techniques that don't require electricity or a conventional kitchen.

WT011: Cooking from Scratch: Kitchen Chemistry

Many people turn their noses up when they hear the word chemistry. But cooking is just applied chemistry and chemistry itself is a lot like cooking. Kitchen Chemistry seeks to understand the science behind the creation of some popular foods; for example, quick bread, cookies, butter, cheese, jam, yogurt, and marshmallows. Students will be able to use chemistry language to describe the process of cooking, will apply chemistry knowledge to explore questions related to food properties, and ultimately share the foods they cook each day with peers.

WT013: Cut, Press, Print - Printmaking

Printmaking at its most basic level involves the creation of a matrix (wood block, litho stone, etching plate, etc.), inking that matrix, and then transferring that ink onto paper. Essential to printmaking is the production of multiples and repetition. This class will introduce several printmaking media and techniques, including, but not limited to: relief, gelli prints, linoleum plates, ez-cut and serigraphy (screen printing). The focus is on fine art printmaking. The technical aspects of each technique will be investigated through demonstrations, in class, studio time to practice and slide lectures, designed to tie the history of printmaking in with the hands-on learning. The course will culminate with a display of the prints in the Lower Messing gallery.

WT017: Fun with Numbers: An Introduction to Number Theory

An imaginative introduction to number theory. Students will utilize creativity as they dive into number systems and explore patterns and relationships. This course will take a fun approach to achieve a better understanding of number theory, modular arithmetic, number bases, problem solving, and a variety of inquiries. With interactive activities, students will be up on their feet collaborating and problem-solving together. Those who find joy in puzzles, riddles, and brain-teasers will love the enigmas they discover in this course.

WT019: How to Take Pictures That Will Change the World

Why do the pictures some people take just look better than others? What do photographs have to do with freedom, war, civil rights, power, identity, and climate change? Can the pictures you take expand freedom, shift power, or improve the world for yourself or other people? For many of us, pictures are used primarily as a means of quick communication, but better understanding the connections between photography and historic moments of change allows us to take charge of image making, create more compelling pictures, and take up the medium as a social tool. In this course, you will photograph things you care about, learn new techniques through analysis of images that have been instrumental in shaping the world we live in today, and develop your own visual project. Our goal will be to sharpen strategies for photography that can make the world a better place.

WT021: Introduction to Marine Biology

Are you interested in the ocean or what is living in it? Then this course is for you! Intro into Marine Biology is a course designed to excite and interest students in the fields of marine and oceanographic science. You will act as a marine biologist and "dive" into the ocean and its many wonders. You will learn about life living in the world's oceans in the areas of cold water marine biology, warm water marine biology, and deep sea marine biology. You will also research and learn about human impacts on the ocean and investigate a marine species or ecosystem of your choice.

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WT025: Monsters in and Around: Critical Analysis of Horror in Literature and Film

From ancient bonfire legendry to the commercially successful horror genre in film and literature, the psychological thrill of being frightened has long drawn us to look behind the door and under the bed. Behind the jump scares, it can also jolt us into thinking more deeply about ourselves, others, and the world we all live in. What has frightened us, and why? How do fictional texts represent or transform non-fictional horrors like contagion, racism, and xenophobia? How can the monsters of horror offer different visions of what we have to fear and how we can (or cannot) overcome the real monsters in and around us? And how can the status of horror and terrors as emotions both personally felt and considered in others reveal structures of power and privilege in the United States? This course will be a brief survey and critical examination of genre horror and its antecedents, proposing that through close analysis of these stories and films we can gain insight into how horror alternately reflects, contributes to, criticizes, and intervenes in structures of oppression in our society.

WT026: Monuments, Memorials, and Memory: Public History and the Presentation of the Past

This course seeks to engage students in applied history. For those who have an interest in pursuing a career in history but who prefer to avoid the traditional teaching profession, this course provides answers for what one can do in the field of history outside of the classroom. Throughout this course we shall explore the ways in which past people, places, and events are presented to the public, as well as the role and works of the public historian. Students will engage with experts in the fields of historic preservation, research, historic tours, and curators while examining museum exhibits, monuments, the presentation of history in media, the function of archives and historical (and presidential) libraries, and historic preservation sites. Finally, students will plan and design some piece of public history, wherein they must identify their audience, platform, goals, and approach to most effectively teach their specific content.

WT027: Public Speaking

This course explores a wide variety and range of public speaking skills and debate skills. Students will conduct basic researching, argumentation, questioning, and rebuttal skills through a variety of debate disciplines, including Policy Debate, Public Forum Debate, and Lincoln-Douglas Debate. Speech skills focus on the development of techniques in diction, articulation, enunciation, and projection. Students will analyze pieces of literature, create, and deliver orations, write arguments, and evaluate performances. Students have an opportunity to participate in local, state (MSHSAA) level, National (NSDA) level Speech and Debate (Forensic) competitions if so desired. This course is open to all students, and one does not have to be a member of the Speech and Debate club to enroll.

WT029: Rock and Roll Island Vibes: Building Ukuleles and Electric Guitars

Do you love the guitar and other stringed instruments? Have you ever been curious how an electric or acoustic guitar works? In this course we will explore the history of the guitar - how the modern design developed out of a variety of its stringed cousins. We will study how acoustic and electric guitars produce their recognizable sounds. In addition, we will assemble and finish electric guitars and/or ukuleles from kits to be donated to local arts programs. Please note: you do not have to know how to play a guitar to take this course! However, our guitars and ukes will have to be tested, so count on finishing the class being able to form at least one chord and play one scale.

WT033: Showstoppers

When music is added to the drama, the storytelling becomes musical theater. Showstoppers will bring together multiple disciplines - music, visual art, drama, dance - in understanding how a musical takes shape from start to finish, as well as the many different components that come together to make a successful show. This course will expose students to musical performances that have helped to create and shape the musical theater that we know today.

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WT037: Take a Hike!

Put on a new lens as you get out of the traditional classroom to explore the great outdoors. This is a course for the 21st century naturalist, environmental activist, and budding conservationist. In this course, we explore, reflect on and develop our relationship with Nature through hiking in the surrounding area. Building on the foundations established by various writers, artists and scientists, each student will be challenged to express themselves creatively through journaling as they work to define their place in the natural world.

WT042: The History That Influenced Star Wars

This course will examine and explore the real life historical events, people, and societies that have influenced the fictitious and fantastical Star Wars Universe. Participants will ultimately create storylines for additional characters and settings that fit into the Star Wars Universe based on current and historical events, people, and societies.

WT043: The Science of Well-Being

If you are looking for science-based, real-world ways to feel just a little bit happier every day, this is the course for you. Washington University's Tim Bono is a professor of Positive Psychology who will be a guest speaker to kick off the course. Dr. Bono wrote the book, *Happiness 101: Simple Secrets to Smart Living and Well-Being* which will provide a framework for our explorations. The first week will focus on Principles of Positive Psychology and Stress Management strategies. The second week will allow students the chance to demonstrate their new-found knowledge in ways that can help others (either same-age peers or younger students). Options for sharing their wisdom include creating a series of social media posts or videos, classroom lessons for 3rd-5th graders, or an independent project of their design.

WT044: The World Peace Game: A Political Simulation

During the World Peace Game, everyone must win or no one wins. This course is a refreshing take on a traditional political simulation: the ultimate goal of this game is Global Peace and Prosperity. The game will ask you to negotiate, advise, collaborate, argue, command, and innovate in order to solve socially, ecologically, and politically interconnected challenges. This course is for anyone who is interested in philosophy, ethics, social justice, conflict resolution, and board games. Out of chaos, solutions are born.

WT046: Vintage Photographic Processes

Students will learn photographic processes from the late 19th and early 20th century, as well as ways to use photography in mixed media compositions. Some of the processes included will be: image transfer, van dyke printing, cyanotype printing, and lith printing. Students will learn about the history behind these image making processes and create examples of each. Though not a requirement for this course, it is recommended that students who sign up for this class have either completed or are currently enrolled in Dark Room Photography.

WT048: Women Athletes & Activism: 50 Years Since Title IX

When Congress passed Title IX in 1972, it enacted significant changes in education, perhaps none more so than those it made to women's athletics. Title IX's goal of ensuring that all girls and women would have equal access and opportunity led to an exponential increase in girls' and women's participation in sports, extending far beyond college. The years following Title IX saw the rise of individual women athletes, women's national teams, and women's leagues including the WNBA and the NWSL, all of which in turn prompted new generations of women athletes and activists. Yet, 50 years later, have equal access and opportunity actually been achieved? This class will explore women's athletics since Title IX, with a focus on the individuals and teams at the college, national, and international levels and their fight for

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recognition, equality, and opportunity. From Billie Jean King to Simone Biles, the World Cup '99ers to the protests of the WNBA players, we'll look at the successes - and the ongoing challenges - for women athletes. Students will end the course by designing a pitch to improve a specific women's sport's league.

WT050: Write about Now

Everyone has a story to tell, but when are we offered the chance to put it into words to share with others? The Write About Now course provides you the space, time, and community to create and tell your story the "write" way. You will read published work by contemporary authors, experiment with form and genre, and workshop your piece with peers. At the end, you will revise and publish your own work in a group anthology.

B SESSION

WT002: A Series of Fortunate Events

"What are the chances?" Do you enjoy lively discussions about space, dinosaurs, probability, and cell division? Were humans always destined to walk the Earth? What events have resulted in our existence - in your existence? If you have ever pondered these questions, this course is for you. We will take a critical look at *A Series of Fortunate Events*, a book by Sean B Carroll. Together, we will attempt to make sense of how these seemingly random events led to our existence and more. Our work will culminate in the construction of an argument on how the timeline of life on Earth might be impacted given the smallest change.

WT007: Capture the Moment: How to Yearbook

Do you want to remember and document all the big moments of high school. . . the pep rally, the homecoming dance, the musical, the big game? Do you love art and design? Do you enjoy talking to people and telling their stories? If you said yes to any of these questions, this winter term experience is for you. In this class, students will gain skills in interviewing, writing stories, editing, design, and photography while producing a creative, innovative yearbook that records school memories and events. Participants will gain useful, real-world experience. Want to create history? Join us! Current yearbook staffers and editors are encouraged to enroll.

WT008: Card Magic to Amaze Friends and Family

Students in this course will learn the basics of card magic, misdirection and effective patter when performing tricks. We will use the Jean Hugard book *The Royal Road to Card Magic* to build a foundation of knowledge around some of the essential sleights of hand to amaze an audience. At the same time, students will begin to develop the interpersonal and improvisational skills necessary to make for an engaging experience of close-up card tricks.

WT012: Create Your Own Murder Mystery Dinner Party!

If you are naturally distrustful and constantly suspect your friends of foul play, this might be the course for you. Before class begins, you will be given a character to play on day one as we experience a Murder Mystery Dinner Party such as Mystery on a Train by Flexi Party or Murder on the Dance Floor by Talking Tables. From there, we will study how the game is constructed, along with some works by the masters of the detective novel, to develop the skills necessary to design our own game. The final days of the class

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will revolve around finalizing the party, recording the audio instructions and printing the cards and attendant materials to bring our designs to market.

WT015: Having Fun Exploring Board Games

In this course, students will have the opportunity to play many different modern board games each having a different major mechanism like deck building, engine building, worker placement, etc. For the final project of the course students will contribute to the board gaming community in some manner by producing a “How to play video”, or a comprehensive review of the game posted on BGG (boardgamegeeks), etc. Many of these newer board games can be more fun than video games, come try them out!

WT016: Exploring the Brain Through the Writings of Oliver Sacks

We will explore the intersection of brain function and human experience through an exploration of the writings of Oliver Sacks, a famous neurologist who captured in fascinating detail the true case-studies of his patients with quirky and unusual neurological disorders and experiences. We will read and discuss selections from his books, which include “The Man Who Mistook His Wife for a Hat”, “An Anthropologist on Mars”, and others. We will also watch the movie *Awakenings* that brings his patients’ experiences to life. Through his writings and visual media we will work to better understand the human brain, what Oliver Sacks called “the most incredible thing in the Universe”, and to better understand ourselves in the process.

WT018: How Diet and Nutrition can Enhance Human Performance

We know that strength training and agility drills will improve athletic ability. We also know that studying and practicing problems will improve academic ability. But, what else can a person do to enhance their athletic ability and academic ability combined with workouts and good study habits? Could it be food? Hmm ... If you would like to know, let’s delve into conversations about understanding the systems of the human body. Physical and mental abilities are just two of many functions that are influenced by the overall health of the “systems” of the human body. If you are interested in learning about food and its effects on the systems of the human body, then come and let’s discuss nutrition, diet, and human performance also known as “dietetics.”

WT020: Installation Art

Installations, including 2D art, sculpture, video, and audio elements, are some of the most popular and exciting works in contemporary art museums today. Students will study recent installation work by artists such as Yayoi Kusama, Christo and Olafur Eliason. Using the resources of the Upper School Architecture and Digital Design studios, students will design their own installation. We will then build the installation art piece in the Price Theater, using the lighting, video and audio resources to create a unique, immersive experience. Previous design and build experience is helpful, but the most important asset is a creative imagination!

WT022: Key steps to financial independence

Based on the NYT best selling book *I Will Teach You To Be Rich* by Ramit Sethi, students will follow a condensed program of 6 steps towards financial independence. Watching inspirational videos, exploring personal financial dos and don’ts and analyzing multiple mini case studies with the goal of overhauling their or their family’s financial infrastructure.

WT023: Luau Party

The Polynesian Islands represent more than just a tropical paradise where one can walk on fine sandy beaches, swim with colorful and playful marine animals, and enjoy great food and lively entertainment at

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luaus. It also represents where to learn about ocean conservation, one of the best places to observe our universe, unique ocean navigation, resiliency, and a blend of many cultures. In this class, students will learn the history of the Polynesian Islands, learn how they traveled across the ocean, the history of hula, the influence of many cultures on the islands, and the importance of HI to astronomy (not astrology). Students will have the pleasure of learning Polynesian dance, how to make leis, and about popular local food. At the end of the week, students will host a Luau Party and will have an action item on how to help the Polynesians of HI preserve their culture and also provide additional income and education to their state.

WT024: MICDS Congress

Have you ever wanted to write a new school rule for the Upper School? In this MICDS Congress course, students will simulate the work of the United States Congress by proposing new school policies for the Upper School at MICDS. In doing so, students will explore the legislative process at a deeper level by writing, collaborating, and debating proposed school policies in the hopes that they could be “signed into law” and take effect here at MICDS.

WT028: Rams Nation Sportscast

We might make SportsCenter’s Top Ten! We’ll begin our study of sports journalism by examining trends in sportscasting such as preview articles, athlete features, play-by-play, and game time articles. Once confident as sports journalists, we’ll move to designing and planning the first episode of Rams Nation Sportscast. From there, we’ll schedule interviews, curate hard-hitting questions, and write commentary before editing our first episode of Rams Nation Sportscast. This course may require some time outside of our regular class block to facilitate athlete/coach interviews as well as to collect sports footage and play-by-plays.

WT030: Role Playing History

In this course, you will immerse yourself in history by taking on the role of a historical figure in a particular historical moment to advocate for the interests and ideas of that figure, and you will “take action” by making decisions to achieve your goals and alter (or recreate) history. Most of the class time will be devoted to reading historical source material in order to prepare and give speeches, scheming with a small group of like-minded roles about what actions you can take to achieve your objectives, and responding to the speeches and actions taken by other individuals and groups. The particular historical moment/topic we focus on will be decided based on the students who sign up for the class, but the primary options include Indian Independence, the French Revolution, or the Mexican Revolution.

WT031: Save the World

It is abundantly clear that climate change is causing severe weather all over the world. It is predicted by mainstream science that all forms of society and production will be impacted in the next 20-30 years. What can MICDS do about this? This course will look at what solutions are being offered in the St. Louis area to both combat climate change and transition towards a sustainable future and see how we at MICDS can contribute.

WT034: Spy Games

CIA. MI6. KGB. Immerse yourself in the top-secret world of espionage. What makes a great spy? What does it mean to be a secret agent and go undercover? What are the tricks of the trade? If espionage is about lying and deception why is it a major part of international affairs? Just how accurate are those spy movies, anyway? This course will give students a chance to dig into questions like these and explore all things spy-related, from the history of espionage to real-life spies as well as fictionalized representations.

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Students will have the opportunity to learn about the lives of individual spies and how intelligence gathering organizations have evolved to play a major role in world events. We'll uncover how spies learn to crack codes and create our own along the way.

WT035: Exploring Math in the Real World and Through Maker Applications

This course is designed for the math enthusiast - and everyone can be an enthusiast. The class will explore real world and maker applications of mathematics, topics that are not normally taught at MICDS but that play a role in the development of upper level mathematics and the historical development of some mathematics' topics. The content of the course is accessible to students in all levels of math from Integrated 2 and above. Students will help select topics which might include: damped harmonic motion which impacts guitar strings and archery bows; the combining of waves which has applications for surfers and musicians; the complex plane and DeMoivre's Theorem; Vectors in Space which are necessary for video game development and military tactics; The Cross product; Mathematical Induction which has applications in dominos, puzzles, and the sinking of the Titanic; the magical, mystical properties and applications of Pascal's Triangle which include defining odds of drawing a particular card; and the rotation of axes of the conic sections which has application in medicine, architecture, sports and everything really. We will explore applications and make some of the mathematical wonders come to life in the makerspace.

WT036: Survival 101

Over the course of two weeks, participants will learn how to survive outdoors with minimal materials. Participants will learn how to obtain clean drinking water, start fires, build shelter, cook using various heat sources, wayfind with map and compass, and first aid. Classroom experiences will be used to provide appropriate background information (including science application) and demonstrate techniques. Classroom discussions will be followed by field practice of the skills. The final assessment includes a survival situation testing various skills taught with a short YouTube video documenting the team's success.

WT038: Teaching the Truth (As We Understand It): Communicating Science

While you might think of your science classes as the place where you learn science, it's a safe bet that you have, at some point, been taught something about a scientific discovery in another format. Whether it's watching Mythbusters, reading the signage at the zoo, playing Kerbal Space Program, or watching a TikTok from Hank Green, there are countless places where discoveries that scientists have made or the process of doing science are presented in informal ways. In this class, we will examine and deconstruct many examples of this, from TV shows to games to comics and more, and discuss what makes them effective. We will also hear from professionals in the field of science communication about how they build programming from the ground up. As the final project for this course, you will be using what you have learned to construct your own product that educates your audience on a science concept that you choose in a way that is both accessible and entertaining.

WT039: The Art of Fan Fiction

Fanfiction, defined by Merriam-Webster as "stories involving popular fictional characters that are written by fans and often posted on the Internet," is an artform. Its title might suggest that it is somehow "less serious" than fiction, but fanfic deserves our attention due to its popularity, existence within and for a community of fans, and the opportunity it gives fans to become makers of more diverse and inclusive stories. In this course, we will explore our own attachments to favorite characters, series, and worlds. We will read fanfiction, and we will write fanfiction. We will also explore the reasons that people write fanfiction, the reasons that some people (including some famous authors) dismiss fanfiction, the copyright and intellectual property issues surrounding fanfiction, and issues involving gender, race, class, sexuality,

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and accessibility in different fan communities and in different responses to fanfiction. Course readings will include excerpts from Rainbow Rowell's *Fangirl* and from *The Fanfiction Reader* (ed. Francesca Coppa). Other readings and viewings will be determined based on the interests and passions of students in the course. By the end of the course, students will write fanfiction with and for each other, and they will write fanfiction for a narrative of their choice. Students will also have a chance to review our English curricula and make a case for what fanfiction to include and why.

WT040: The Art of Food with Flour: From Making to Decorating

Food with flour: learn it, make it and share it, no matter your skill level. This course features hands-on learning, from making, to decorating, also knowing recipes, tips about techniques, and the story behind through the lens of cultural perspectives of food cultures from the east to the west. It also includes decorating cakes, cookies, Chinese steamed buns, pastries and more.

WT041: The Art of Lit: Picturing it

Students will select a work of literature from a menu of short stories and poetry to translate creatively into visual form (e.g. graphic novel chapter or comic, board game, diorama, installation or infographic format.) Direct instruction will involve a brief overview of the history of word and image in art, as well as instruction in elements of design and elements of composition.

WT047: What was Your Family Doing Before You Joined Them?

Students will have the flexibility to explore their family history in a variety of different ways—they might build off of what their family already knows or be the one to start researching their family, or focus on family stories about different people and time periods to see how accurate those stories are. Students will also be introduced to the variety of genealogy sources that are available.

WT049: Women's Studies: Health and Wellness

Students will explore topics specific to women's health through every stage of life from puberty to menopause and beyond. This course uses current research and science to empower women to make informed decisions about their physical, emotional, intellectual, social, cultural, and interpersonal well-being while combating misinformation and myths. We will study the development and maturity of the female reproductive system, including the menstrual cycle, pregnancy, hormones, and more.

A & B SESSION (Counts as two classes)

WT045: Theater Immersion (Thespians)

Missouri State Thespian Conference is a class available only to inducted and active Thespians in the MICDS Theatre program. The first week of Winter Term will be traveling to and participating in the annual state festival. Participants will compete in either performance or design events. When not competing, we will attend a variety of classes, demonstrations and exhibits. In the evenings, we will attend productions and improv events. The second week of Winter Term, we will return to the MICDS campus where we will design and install a Paris street scene in the Lower Messing Gallery to commemorate the upcoming performance of *Amélie*.