

# 2022-2023 Special Projects Course Catalog



Special Projects are week-long courses that meet for extended contact hours between the Winter and Spring academic terms. Fun and unique, these courses often deal with topics, materials, and approaches that would be difficult to incorporate into a traditional ASMS class. Annual completion of a Special Projects course during Special Projects Week is an ASMS graduation requirement. In the past, some Special Projects courses had enrollment costs. This is no longer the case. Special Projects are entirely free to ASMS students.

This year, Special Projects Week will take place between February 13 and 17. Students should expect to be in their classes from at least 9 am until 3 pm, with some classes keeping longer meeting hours due to travel or activities. The sign-up process for 2022-23 Special Projects will be fully online. On Tuesday, November 29 at 7 am, separate sign-up forms for each student cohort will go live. Students will have until the end of that day to make their selections online. Links will be provided below, but note that they will not accept entries until November 29.

Sophomore SP selection link: <https://forms.office.com/r/z8GwVz9PvU>

Junior SP selection link: <https://forms.office.com/r/H6mEieQh20>

Senior SP selection link: <https://forms.office.com/r/1PZYPwFQWV>

To prepare for the sign-up process, students should consult the attached catalog and select their top five courses. They should pay attention to the enrollment limits for classes and understand that some will fill up more quickly than others. Also, classes with few interested students may not make, which could result in students being assigned to different classes.



## 2022-2023 Special Projects Courses

### Knitting for Beginners, Yarns and Fabrics

Instructor(s): Ms. Muriel Hoequist

#### Course Description:

This project will teach you to knit a shawl after a simple pattern. You will be able to assess more realistically whether a project you see online is within your technical abilities, how to do this well, and how much time it would take to make it. Experienced knitters and crocheters, please leave this project to total novices.

Each student will research a textile-related topic of their choice and report their findings to the class each day the group meets. Students will also receive practical experience in knitting and learn how to correct and improve on beginning work. Students will gain insight into more intricate projects and variations of beginning skills to set an artistic goal for the future. Students will each receive their own yarn and knitting needles, as well as a crochet needle for finishing the project.

Maximum Enrollment: 6

### Osprey Initiative

Instructor(s): Dr. Karen Palazzini

#### Course Description:

The Osprey Initiative is a Mobile-based company focused on developing cost-effective solutions for litter control and clean-up. The firm is active in collaborating with private and public entities to customize litter solutions that not only involve the removal of litter but also litter control and litter recycling as both an input for industry and an output/product for consumers. Participants in this project will learn about the broad environmental problems posed by litter and learn how litter control devices can be engineered to solve problems. Students will travel to Osprey Initiative litter control sites and help collect data and litter. This may not sound glamorous; however, we go to some beautiful places near rivers, the Mobile Bay, and the Gulf to collect litter! We are outdoors a lot of the time, even collecting litter in kayaks! Please visit [www.osprey.world](http://www.osprey.world) to imagine yourself being engaged in all of the aspects of litter control and recycling.

Maximum Enrollment: 6

### Urban Studies: Is Mobile an Inclusive and Sustainable City?

Instructor(s): Dr. Diane Gerard

#### Course Description:

A continuation of the Urban Studies Special Project from last year, students will participate in urban planning activities downtown, assess downtown streets, "read" Mobile's built environment and if time permits, provide a plan for completing a current development project.

The goal is to better understand all the various ways the city and its stakeholders work to make the city sustainable by participating in plans and projects, both proposed and ongoing.

Maximum Enrollment: 12

### An Introduction to 3D Printing and Design

Instructor(s): Dr. Jessica Alexander

Course Description:

From creating rapid prototypes to printing medical implants to even making cosplay costume parts, 3D printing has become ubiquitous in our everyday lives. During this special project, students will learn about the history and development of 3D printers, as well as how they are used in various real-world applications. They will then learn how to use computer-aided design (CAD) software and slicing programs to turn their own ideas into custom 3D printed objects for them to keep as souvenirs. This course is recommended for students who have no prior experience with CAD software.

Maximum Enrollment: 14

### A Day at the Beach (4 Million Years Ago)

Instructor(s): Dr. Rebecca Domangue, Dr. Drew Gentry, and Dr. Natalie Ortell

Course Description:

Have you ever collected shells or shark teeth at the beach? Have you ever wondered about the animals that left these artifacts behind? What if the shells and teeth you were collecting were left by animals that lived millions of years ago? During Special Projects Week, we will investigate the marine life that lived along the Alabama coastline prior to the beginning of the last Ice Age. Students will learn about the species of fish, shark, and invertebrates that lived in the Gulf of Mexico during the Pliocene epoch (5.3 to 2.5 million years ago) by conducting fieldwork at Dauphin Island and lab work centered around identifying fossils in the samples they collect. Students will learn the taxonomy, systematics, and evolutionary history of these animals from ASMS professors and the Director of Collections at McWane Science Center, Jun Ebersole, a paleontologist who specializes in studying the fossil sharks and fish of Alabama. At the end of the week, specimens will be added to the ASMS Paleontology Collection or sent to the McWane Science Center for further study and possible inclusion in ongoing paleontological research. Additionally, students will produce a video blog detailing their week of fossil discoveries, made available to local media and ASMS outreach.

Maximum Enrollment: 16

### Introduction to Flight

Instructor(s): Dr. Victor Irby

#### Course Description:

Students will spend some time researching and learning about the basics of flight, such as aerodynamics, aircraft performance, instruments, flight maneuvers, airports, airspace, ATC, and navigation. Students will also have the opportunity to train on our Flight Simulator.

Maximum Enrollment: 14

### Let's Play T20 Cricket

Instructor(s): Mr. Nasrullah Aziz

#### Course Description:

Cricket is a bat and ball game played between two teams on a cricket field. This game was first recorded in England in the 16th century. It has different forms, like test cricket, one-day cricket, and T20 cricket. The students in this project will learn the basic rules of the T20 game and later will apply them in playing. The winning team will get a surprise gift.

Maximum Enrollment: 14

### Latin American Culture Through Cinema

Instructor(s): Dr. Keith Lindley

#### Course Description:

Using two award-winning films as a starting point, this course explores aspects of Spanish-speaking Latin American culture, history, and current affairs. *Diarios de Motocicleta* (*The Motorcycle Diaries*) tells the story of a transformative journey in the life of Che Guevara, one of Latin America's most prominent revolutionaries, while *La Misma Luna* (*Under the Same Moon*) follows a young Mexican boy as he makes his way to the United States to be with his mother after his caretaker grandmother dies. Brief lectures and class discussions will be used to examine a wide range of topics including, but not limited to, race, ethnicity, social stratification, politics, art, cuisine, literature, music and language. Under the supervision of the instructor, students will choose an additional Latin American film to watch, analyze, and present to the class. Brief reading and writing assignments will be included. Knowledge of Spanish is not required.

Maximum Enrollment: 20

### United States History in Film

Instructor(s): Mr. Derek Barry and Mr. Brian Sayler

#### Course Description:

Since Thomas Edison patented America's first motion picture camera in 1891, telling America's history through film has become a large part of our culture. For many people, watching a Hollywood film about America is their only way of getting to know its history (no matter how

accurate the film). The films we will watch for this class are Hollywood films rather than documentaries, so they are reenactments of historical events, not a documentary record of events. Our goal is to learn American History through watching movies. A true history of America contains stories of courage, leadership, innovation and triumph. These stories are marred with violence, war, slavery, deceit and overall treachery. Some films may be R-rated, and some may include violence, adult content, and adult situations. Please be sure you are comfortable with this material before enrolling in the course.

Maximum Enrollment: 20

### Chemistry of Color

Instructor(s): Dr. Matt Davenport

Course Description:

From the moment humans first created paintings on cave walls, pigments of various colors have been sought out by humans across the globe so they could express themselves, their ideas, and their view of the world through art. Even today, pigment creation and development is a large industry with vast amounts of funding seeking to create cheap, bright, long-lasting, non-toxic pigments. In this project we will explore the science behind the color of different materials, what makes a good pigment, and how pigments are obtained. During the project, students will extract pigments from natural substances, synthesize their own non-toxic pigments, and use these pigments to create paintings they will be able to keep.

Maximum Enrollment: 14

### Learning Physics From Sports

Instructor(s): Dr. Durga Paudel

Course Description:

Whether we know it or not, we are doing physics in our everyday activities. Dynamics of the body contribute to the performance of athletes. Understanding physics helps athletes with control and coordination of movement. This project aims to provide an understanding of the physical mechanisms behind many popular sports and everyday activities such as Gymnastics, Jumping, Running, Soccer, Football, Swimming, Tug of War, Tennis, Baseball, Volleyball, Golf, Hockey, Kite Flying, Sailing, Skiing, Bowling, Basketball, Curling, Rock Climbing, and more. Students will perform sport activities at ASMS and in nearby recreational facilities to apply their physics knowledge on sporting events.

Maximum Enrollment: 14

### Exploring the Moo Do Way: The History of Martial Arts

Instructor(s): Dr. Libby Jones

#### Course Description:

Combat as a competitive sport has existed across nations, cultures, and eras from the Japanese samurai to the Roman gladiator to boxing matches in ancient Greece. The art of the martial way, or in more contemporary terms, "martial arts" evolved from this human impetus to prove physical supremacy into a complex system of choreographed movements, styles, and techniques. Students will investigate the philosophies, histories, and national origins of various styles, and learn some basic practices in the art of Soo Bahk Do, a traditional Korean martial art that emphasizes the elimination of conflict through mental, physical, and emotional harmony. Students will work in pairs or small groups to research contemporary types of martial arts, presenting their findings to the class.

Maximum Enrollment: 14

### Using the LaTeX Typesetting System to Create Well-Formatted Mathematical and Scientific Texts

Instructor(s): Mrs. Natalya Prokhorova

#### Course Description:

The LaTeX typesetting system is widely used to create well-formatted mathematical and scientific writing. Nearly every serious student of math or science will use LaTeX frequently. In this class students will learn much of what they'll need to express math and science like a professional, much better than writing papers with Word! By the end of the course students will have prepared an educational brochure on topics chosen from Algebra, Geometry, Calculus, or Math Problem Solving.

Maximum Enrollment: 14

### The Science of Science Fiction Cinema

Instructor(s): Dr. Elisa Rambo

#### Course Description:

Roger Ebert, Leonard Maltin, Gene Shalit are well-known movie critics. Nowadays, people also rely on the Tomatometer to decide if a movie is screen worthy. A review may mention the acting, the cinematography, and the action scenes to entice a reader to go to the theater. But what about the science? How often does a movie review declare the science is thrilling or even believable? Rarely. This Special Project will combine love of SF movies with analysis of the science in the movie. And popcorn too!

Maximum Enrollment: 14

### Crafts and Culture of Mexico

Instructor(s): Mrs. Charla Pacheco

#### Course Description:

This class will look at some of the handmade crafts of Mexico and the culture surrounding them. We will focus on typical crafts from the state of Oaxaca such as: Alebrijes (painted animals), Barro Negro (black pottery), Papel Picado (cut paper), Ropa Bordada (embroidered clothes), Palma Tejido (woven palm), and Tepetes (woven rugs). We will look at the origins of these crafts, how they are passed down, their economic impact, and the future of the handcrafts. As we learn about each craft, we will attempt to complete a small project in class with each one as well. Projects will include painting an alebrije, folding and cutting paper banners, and learning to weave and embroider.

Maximum Enrollment: 14

### Habitat for Humanity

Instructor(s): Coach Brouillet and Coach Jackson

#### Course Description:

Habitat for Humanity is an organization devoted to building affordable housing for families in need. In this Special Project, students will assist in the construction of a home for such a family. Students must be at least 16 years old to participate and 18 years of age to use any power tools. Those under 18 must have parents sign the waiver of liability forms. The specific daily job responsibilities are assigned by the on-site Habitat for Humanity job supervisors. Students not only gain knowledge and experience of working on houses, but also are contributing a sense of dignity, pride, and hope to others. The bus will leave daily at 8:00 am (except Monday, when students will research important points about Habitat) and return by 4:00 pm each day.

Maximum Enrollment: 12

### The Family in the American Sitcom

Instructor(s): Mr. Daniel Commander and Dr. Karen Smith

#### Course Description:

Since the 1950s, the television situation comedy, or sitcom, has reflected the cultural norms of its time while also showing the changing face of America, particularly in relation to the family. In this course, we will use the American sitcom as a lens for analyzing how ideas about the family, marriage, and gender roles have shifted over the past seventy years. We will examine the ways in which sitcoms have reinforced dominant ideologies of the family, but we will also consider the part that they have played in helping us understand and even change these conventional views. We will be looking at sitcoms ranging from *The Honeymooners* and *I Love Lucy* all the way to *Modern Family* and *Black-ish*, with stops along the way including *The Brady Bunch*, *Good Times*, and *The Simpsons*, just to name a few. We will also consider the idea of "chosen family" in sitcoms like *The Golden Girls* and *Will and Grace*. Students will attempt to

creatively reimagine a family sitcom for our modern age as well as do research into the history of the sitcom and its social impact.

Maximum Enrollment: 14

### Mathematical Origami

Instructor(s): Mrs. Meoshe Id-Deen

Course Description:

In this Special Project, you will explore the beauty of origami and mathematics. Learn how to create stunning yet complex polyhedral models. Start by creating Platonic solids such as tetrahedrons, hexahedrons, and octahedrons. (Don't worry if you don't know what these are.) Then, explore fun and unique modular origami models such as the stellated icosahedron and the star dodecahedron. Perhaps you will even challenge yourself to create a 90-unit, or better yet, a 270-unit origami ball.

Maximum Enrollment: 14

### Making The Cut: Material Science and Design

Instructor(s): Mr. Orren Kickliter and Mr. Kevin Dolbeare

Course Description:

Using cutting-edge technology, students will learn about three diverse materials: metal, plastic and wood. Each has unique properties that will be explored in this class. Students will create their own designs based on hand drawings, cell phone images, and tablet or computer graphics. No artistic talent is required as Mr. Dolbeare is involved. The designs will be converted into vector graphics with free apps and Adobe Illustrator for transfer to CAD software for cutting with a CNC (computer numerical control) Laser or CNC Plasma cutter. No vectors will be harmed in the making of this class.

Maximum Enrollment: 6

### Tabletop Game Design Workshop

Instructor(s): Dr. Mitch Frye and Mrs. Kristal Webb

Course Description: Students will learn about the process of tabletop game design and study gaming industry trends. They will play board, card, and party games to see what makes them enjoyable and marketable. Industry professionals will visit the class and discuss the business of game design and publishing. Students will design their own games, create prototypes, playtest their creations, and produce "sell sheets" intended to hype their products. At the end of the week, outside guests will visit the class and vote on their favorite games.

Maximum Enrollment: 20



## Computing Camp

Instructor(s): Ms. Deborah Gray and Mr. Grey Gaillard

### Course Description:

In this project, students will apply computing to create games and music, solve cybersecurity puzzles, and control circuits. They will use pocket-sized computers – micro:bits and Raspberry Pis – to program LED circuits and games. This is an opportunity for students to learn and improve their Python programming skills. Hosted part of the week at the University of South Alabama, students will hear about computer science research at USA and visit labs. During the other part of the week, students will tour local tech companies to see programming, research, and computing in action.

Maximum Enrollment: 14