



## 2025 Special Projects Catalog

### The Osprey Initiative of Mobile

Instructor(s): Dr. Karen Palazzini

Course Description:

The Osprey Initiative is a Mobile, Alabama based company focused on developing cost-effective solutions to litter control and cleanup. The firm works with government and private industry to design customized litter solutions that involve the removal of litter as well as litter control and litter recycling. Students 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 along local rivers, Mobile Bay, and the Gulf of Mexico and help collect data and litter. Students will be in the great outdoors most of the week. Visit [www.osprey.world](http://www.osprey.world) to imagine yourself engaged in all aspects of litter control and recycling.

Maximum Enrollment: 5

### Crocheting Amigurumi

Instructor(s): Dr. Jessica Alexander

Course Description:

This special project will introduce students to the basic techniques needed to crochet amigurumi, the Japanese art of crocheting small, stuffed yarn creatures. Students will learn about the different types of stitches while crocheting a simple animal, followed by one or more projects or more complicated designs. They will also learn about the mathematical foundations of crocheting. This course is recommended for students who have little-to-no prior experience with crocheting.

Maximum Enrollment: 6

### Homemade to Global: A Survey of Food in History

Instructor(s): Dr. Jennifer Tellman

Course Description:

In this course, students will study the history of food culture and prepare several dishes themselves. We will begin our journey close to home by diving into the history and food entwined deeply within some of America's major holidays. We will look at Thanksgiving, Christmas, New Year's, Mardi Gras, and Fourth of July food traditions we experience every year. We will then broaden our scope to investigate our regional foods and their histories, including Southern, Cajun, and Creole cooking. Expanding our geographical range, we will consider national foods, specifically the rise of American fast food during the mid-twentieth century,

including the arrival of Waffle House and grocery stores like Piggly Wiggly. Students will learn that food and consumerism travel the same path for most of history, taking off in a uniquely modern direction with the advent of the modern drive-through window and the increasing presence of TVs in private homes. We will trace this history of food on our screens from “housewife” cooking shows to the modern cooking competitions airing today. From there, we’ll embark on a new style of vacationing: the epicurean tour or culinary travel. We will explore how food tourism brings the global appetite to the local table and develop our own food tour.

Maximum Enrollment: 6

### American History through Film

Instructor(s): Mr. Derek Barry

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 concerning America is their only way of getting to know the country’s 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 documentary records of events. The goal of this class is to explore and discuss American History through watching and writing about movies.

Maximum Enrollment: 20

### Introduction to Flight

Instructor(s): Dr. Victor Irby and Dr. Mark Byrne

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

### Mathematical Origami

Instructor(s): Mrs. Meoshe Id-Deen and Ms. Helene Swanepoel

Course Description:

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

Maximum Enrollment: 14

### Week of Wellness

Instructor(s): Coach Angel Jackson

Course Description:

This special project will explore wellness through activities, speakers, and field trips. We will visit various wellness/fitness facilities and participate in a service project. Students will divide their time between improving their own wellbeing and serving others. The week will alternate between on-campus and off-campus experiences. Students should be prepared to purchase some off-campus meals for themselves.

Maximum Enrollment: 6

### Solving Math Puzzles with AI: Who is Smarter?

Instructor(s): Mrs. Natalya Prokhorova

Course Description:

In this course, we will consider the most famous logic puzzles and riddles. Each lesson will start with a relatively simple puzzle that illustrates a mathematical idea or problem-solving strategy. From there, we will move on to more challenging problems and offer the puzzle to the AI program to solve. Puzzles include the Bridges of Königsberg, the Monty Hall problem, the "Hardest Logic Puzzle Ever," and many more. The outcome of the project will be presented as a presentation in the Beamer format. Students will be given an introduction to using the LaTeX math typing system.

Maximum Enrollment: 14

### Adulting 101

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

Course Description:

As you prepare to leave ASMS and head on to exciting new adventures, consider taking the Adulting 101 special project course to add tools to your toolbox. Over the week, we'll cover the three "Fs" of adulthood, Food, Finances, and Freedom! For example, for Food you will learn how to meal plan and prep (and not burn ramen); under Finances learn how to establish a budget, setup utilities, learn about credit history, and taxes; for Freedom, you will learn about home, car, and self-maintenance, professional skills, and travel navigation. Students will also be able to customize the topics based on their personal needs. On Friday, you'll test your skills portfolio on an Errands Adventure!

Maximum Enrollment: 20

### 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 reflecting 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*, with stops along the way including *The Brady Bunch*, *All in the Family*, *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

### Machine Sewing 101

Instructor(s): Mrs. Charla Pacheco

Course Description:

Machine Sewing 101 is a basic course in learning to machine sew. We will travel to All About Sewing to learn about the sewing industry and basic sewing machine mastery. While there, the students will choose fabric and make a pillowcase. The rest of the week will be spent designing and creating items such as a purse or computer bag here at ASMS. Each student will be provided with simple patterns, scrap fabric (including a pair of adult blue jeans) and access to a sewing machine and basic sewing supplies to create their own simple projects.

Maximum Enrollment: 6

### Community Volunteering: Habitat for Humanity

Instructor(s): Coach Bill Brouillet

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. We may do other volunteer work at other organizations if there is a day no work is needed by Habitat.

Maximum Enrollment: 14

### Computing Camp

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

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

### Charge Ahead: Solar-Powered Industrial Design

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

Course Description:

Solar power is a clean energy source that individuals and companies are increasingly exploring to mitigate global warming and environmental pollution. Industrial design combines science, technology, and creativity to shape future products and environments. In the development of renewable energies like solar, battery technology is essential. In this class, students will design and build their own functioning solar-powered, rechargeable, lithium iron phosphate battery (LiFePO<sub>4</sub>) portable power station. This device will effortlessly keep 5-12 volt gadgets fully charged for the future. To complete this project, students will need to learn oxidation-reduction battery chemistry, read electronic schematics, use a multimeter to test resistance, capacitance, and voltage, learn Ohm's Law, use power tools, practice the fundamentals of 3D design, and harness the power of the sun.

Maximum Enrollment: 8

### The Extinct Sharks of Alabama

Instructor(s): Dr. Drew Gentry and Dr. Elisa Rambo

Course Description:

Have you ever collected shells or shark teeth at the beach? Did you wonder 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 in southern

Alabama more than 30 million years ago. Students will learn about the species of fish, shark, and invertebrates that thrived in Alabama during the Eocene epoch (56 to 33.9 million years ago) by conducting fieldwork 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: 20

### The Art of Subcontinental Calligraphy

Instructor(s): Mr. Nasrullah Aziz

#### Course Description

The art of calligraphy in the subcontinent is a mesmerizing blend of culture, history, and creativity. It has been an essential part of Islamic and South Asian heritage, with scripts like Nastaliq and Naskh reflecting elegance and grace. Teaching calligraphy offers a deep dive into this traditional art form, exploring techniques that convey emotion and storytelling. This week-long course will allow students to discover the beauty of calligraphy, learn its intricate styles, and appreciate its role in shaping the region's rich artistic legacy. The students will also enjoy the food and drinks of this region.

Maximum Enrollment: 10

### Survey of Musical Theatre

Instructor(s): Dr. Magdalena Sage

#### Course Description:

Students will watch and discuss various musicals, tracing changes and styles in musical theatre while learning about prominent composers. We will explore influences from other genres of music, historical events, and pop culture. Singing and playing instruments is not required.

Among the shows that we will discuss are: Show Boat, Oklahoma, West Side Story, Fiddler on the Roof, Les Misérables, The Sound of Music, Cabaret, Mamma Mia, Sweeney Todd, Company, Into the Woods, Cats, Jesus Christ Superstar, Phantom of the Opera, Evita, Notre-Dame de Paris, High School Musical, Matilda, Beauty and the Beast, SIX, Spamalot, Chicago, In the Heights, Hamilton, and Hadestown.

Maximum Enrollment: 20