



January Interim 2022 – Catalog of Courses

Course descriptions including instructors, student numbers, and cost can be found in the pages following this list.

Many courses do not have a fee, but those which involve travel, training, certification, or extensive materials may require a fee to cover expenses.

1. Patchwork Quilting: Stitching Together Textile Art and Geometry
2. Ink and The Infinite: Investigating Mathematical Literature
3. The Cooking Lab
4. Origami: The Art of Paperfolding
5. The Digital Filmmaking Class
6. Mental Health in Pop Culture: Movie Moments
7. Chess in the Interim
8. World Building in the Films of Studio Ghibli
9. Honeybees: The Biology, History, and Impacts of a Domesticated Super-Organism
10. Songwriting
11. Equine Science and Horsemanship
12. Computational Biology
13. Drone Building and Flight Time
14. Underwater Exploration through SCUBA Certification)
15. Winter Sports in the Interim
16. Music Performance
17. Glider Piloting at the Bermuda High Soaring School
18. The Ethics of Fashion
19. Art in the Field: A Creative and Personal Exploration of Nature
20. The Art of Mathematical Problem Solving)
21. Buddhist Perspectives
22. Engineering Projects

Travel Courses:

1. Exploring Spain and Portugal
2. Viva Argentina
3. Puerto Rico: Isla del Encanto
4. Exploring India and Nepal's Culture, History, and Environment
5. A Smithsonian Interim



COURSE DESCRIPTIONS

Course Title: Patchwork Quilting: Stitching Together Textile Art and Geometry

Course Description: Learn the basics of patchwork piecing and quilting, and explore the history of this beautiful and practical textile art form. Students will use geometry to design and craft various quilt blocks and projects including a throw blanket to keep. In addition to personal projects, the class will work together to create a class quilt to be donated to someone in need of comfort. No sewing experience required; needed machine and hand sewing skills will be taught in this course.

Course Title: Ink and The Infinite: Investigating Mathematical Literature

Course Description: In this course students will investigate the intersection of mathematics and literature. Readings will include "The Library of Babel" by Jorge Luis Borges, "The Infinite Assassin" by Greg Egan, "The Nine Billion Names of God" by Arthur C Clarke, and other selected works in prose and poetry that feature mathematics. Students will discuss aspects of literature, philosophy, and mathematics with the instructors and write their own mathematical poetry. This interim course may include a trip to Charleston to meet and talk with an author of mathematical literature. The only cost to students for this trip would be lunch.

Course Title: The Cooking Lab

Course Description: Students will learn basic cooking skills as well as study some of the science and math behind cooking.

Course Title: Origami: The Art of Paperfolding

Course Description: Come learn how to create insects, birds, flowers, and anything else your heart desires! Origami is a relaxing interim in which you will learn about the rich applications in mechanical engineering and mathematics, and what this art has told us over the centuries about culture and history. Paper folding might be an ancient art, but it can also transform the modern life. By meditating on folding paper, we boost mindfulness. We learn to concentrate in the moment without distraction. In the age of social media, this quiet attentiveness alleviates stress from the constant ebb and flow of information. Origami requires no resources other than a sheet of paper and free time. It requires no learned skill like other arts and crafts but the ability to make a crease. And, in turn, with patience, anything can be realized from a simple flapping bird to a complex antlered deer to the mathematical precision of polyhedra.

Course Title: The Digital Filmmaking Class

Course Description: In this class, the students' main goal will be to work in a group to write, direct, and edit a five minute narrative video that could be shown to the entire GSSM school in the gym. To get ready for that endeavor, students will practice shooting and editing smaller projects beforehand. Students will be given the option of shooting scenes around Hartsville (if they can get permission beforehand), so we will need a minibus for that purpose.



Course Title: Mental Health in Pop Culture: Movie Moments

Course Description: This course will view and discuss a variety of films as a foundation for exploring and understanding human growth and development, relationships, psychological disorders across diagnostic categories and treatment modalities. Students will be familiarized with inter-personal and intra-personal development, as well as how mental illness can impact these. The course will consider how media impacts the views of mental illness and treatment both in a positive and negative manner. The class will identify possible hinderances and disparities in treatment provision as it pertains to DEI. The students will engage in thoughtful discussion about the student's role as an advocate within GSSM and the larger community regarding mental health. Finally, the course will review the differences in public versus private delivery systems.

Course Title: Chess in the Interim

Course Description: Chess is the best-selling game of all time. Chess trains your mind to solve problems, requires focus and creativity, and teaches you to see things from others' point of view. It is a simple game with endless possibilities. This course is designed for all levels of chess players. Whether you do not know how the pieces move or you are an accomplished player, you will learn, play, and have fun. In the course, instructors, students, and guest speakers will present on rules, tactics, notation, openings, and strategy. . Students will play lots of chess, including at least one tournament in class. The class will also participate in the MLK Scholastic Event of the Charlotte [Chess] Open on Monday January 16. No overnight travel is involved in this course.

Course Title: World Building in the Films of Studio Ghibli

Course Description: "The creation of a single world comes from a huge number of fragments and chaos."—Hayao Miyazaki. Films create worlds through two-dimensional images. This interim class will explore how films from the world's greatest animation studio create worlds that are both magical and deeply moving. We'll start with two foundational Ghibli films—Miyazaki's *My Neighbor Totoro* (cat bus!) and *Spirited Away*—to analyze the films and look at the role of myth and Japanese history and culture in them. Each student, as part of a group, will then choose a film we watch and lead a discussion of world building in it. Students will also keep journals during the course and read a few articles on film analysis and history.

Course Title: Honeybees: The Biology, History, and Impacts of a Domesticated Super-Organism

Course Description: Students will learn about honeybees, their domestication, biology, and impact (economics, food-security) on humans and their environment through research, classroom discussion, and hands-on hive management with a master beekeeper.



Course Title: Songwriting

Course Description: Learn songwriting from the pros. Taught by professional internationally-touring musician and GSSM alum ('09) Cuchulain, this interim class will give participating students a crash course in song creation. Students will write, arrange, edit, record, and perform at least one original song before the end of the two-week interim. Along the way, there will be bad poems, good songs, music theory workshops, arranging and editing lessons, song sharing feedback sessions akin to a college-level seminar, an exclusive "listening to music club," and multiple special Zoom guest lectures from professional musicians across the country. Culminating in a final concert of only original material that never fails to be magical, this songwriting interim may also feature a field trip to a nearby concert in Charlotte, Columbia, or Charleston. Songwriting is about the joy of music, outrunning the inner critic, expanding our listening horizons, communities of people with enough vulnerability to fill the blank page with something from the heart. In short, it's about writing and sharing best thing in the world: music.

Course Title: Equine Science and Horsemanship

Course Description: A fun, hands-on course that combines riding lessons with horse care and in-depth exploration of horse physiology and husbandry from local experts. Each student will ride and be responsible for their "own" horse throughout the course. Students will leave for Tally Ho Equestrian Center in the morning and return each afternoon.

Course Title: Computational Biology

Course Description: Biology covers so many areas including ecology, medicine, genetics, zoology, agriculture, biophysics, bioengineering, biochemistry, and many more. A recent theme in biology is the generation of a lot of biological data that needs to be analyzed by computers. For instance, DNA can now be cheaply sequenced (think 23andMe) providing insights into human ancestry and medical risk factors. Digital Biology is a dynamic scientific discipline that utilizes computational and statistical methods for solving biological problems. A major theme in digital biology is to integrate and understand biological data generated by genome sequencing projects and other high-throughput molecular biology efforts. Digital biology tools are developed to reveal fundamental mechanisms underlying the structure and function of macromolecules, biochemical pathways, disease processes, and genome evolution.

Course Title: Drone Building and Flight Time

Course Description: The widespread commercial use of drones is predicted to inject \$13.6 billion in the US economy over the next three years and create 70,000 jobs in both drone manufacturing and flight operations. Future drone pilots are already enrolling by the hundreds in UAV training programs around the country. In this interim course, students will work with an AINautics instructor to build and program a drone, then spend time flying it. Students will keep their drone after the course.



Course Title: Underwater Exploration through SCUBA certification

Course Description: Students will work toward their SSI open-water SCUBA certification with certified instructors from the Wateree Dive Center. This class will include online lessons and material, classroom instruction, and practical experience diving and testing their skills in a controlled swimming pool environment and open water conditions. The course will include overnight travel to Crystal River, Florida.

Course Title: Winter Sports in the Interim

Course Description: Students will learn about a variety of winter sports in the classroom setting as well as in the field, making day trips to various facilities/events that host winter athletics. We will also compare the sports to their origins and examine the history of how they got to be as they are today. We will also read a book throughout the course as it relates to a winter sport or athlete.

Course Title: Music Performance

Course Description: Students will have the opportunity to learn, listen and analyze, create, and perform music of various genres as soloists and within ensembles. This is a performance-based course, so lots of practice and performance-practice is required. We will explore interesting topics of multi-cultural music, music theory, and music history. Towards the end of the term, we will travel to Charlotte or Columbia to see a musical, orchestra, or opera performance. For our final presentation, we will be in the spotlight of the school community to showcase our mastered works in the gymnasium!

Course Title: Glider Piloting at the Bermuda High Soaring School

Course Description: Learn how to fly an engineless, glider sailplane through an introductory course at the Bermuda High Soaring School. Each student will fly approximately 30 dual flights (at 3000 ft. and 1500 ft.) with a highly experienced, fully qualified FAA flight instructor. During each flight, students will learn how to control the glider as they work toward flying at least one supervised solo flight. Students will learn the basic physics of aviation, as well as flight plans and safety procedures. Every day the class will drive to the soaring school (~45 minute drive) for ground school and 3-5 flights, weather permitting. Learn more about gliding and the Bermuda High Soaring School at www.glider.org.

Course Title: The Ethics of Fashion

Course Description: In this introduction to “slow fashion,” students will consider the ethics of fashion in consumer culture, which encourages us to think of clothing as disposable—a position that is neither respectful of craftsmanship nor kind to our planet and its workers. We will dip into fashion’s artful past, traveling to locations such as the Mint Museum of Craft and Design, and look at its creative future. Guest speakers will share experiences with ongoing sustainable fashion and fiber art projects. Ultimately, students will create their own garments from recycled and upcycled materials. Students do not need sewing skills to complete this design challenge.



Course Title: The Art of Mathematical Problem Solving

Course Description: In this class, you will learn mathematical problem solving by working through some of the past American Mathematics Competition for high school students(AMC12). you will find the old exams archived at the web site of art of problem solving.

Course Title: Art in the Field: A Creative and Personal Exploration of Nature

Course Description: Embrace your creativity upon beautiful landscapes as you explore connections between South Carolina Natural History and Visual Art. Find inspiration for your own works of art as we adventure through Edisto Beach State Park (where we will spend two nights in cabins), 40 Acre Rock, Congaree National Park, Sandhills National Wildlife Refuge, Kalmia Gardens, and the Columbia Museum of Art. Learn about the unique landscapes and wildlife of South Carolina, historical and contemporary artists, and art techniques such as sketching, painting, and cyanotype sun prints. At the end of this course, students will have created a unique mixed-media sketchbook/portfolio that combines art exercises with written reflections. This is a wonderful opportunity to develop art through field work and observation, as well as heightened sensory experiences of the natural world.

Course Title: Buddhist Perspectives

Course Description: This course introduces the foundations of Buddhist views and practices. It investigates the early teachings of the Buddha as well as later commentaries, interpretations, and applications, from ancient India through its spread and influence across the world to the present day. Topics covered will include perspectives on the human condition, the nature of suffering and its cessation, the nature of the self, cause-and-effect (karma), human volition (will), mindfulness, insight, and universal loving-kindness. We will also consider the interconnectedness of theory and practice as we explore cultural practices as diverse as meditation, iconography, and tea ceremonies. Students should expect to engage in guided and self-directed mindfulness activities as well as contemplative outdoor experiences

Course Title: Engineering Projects

Course Description: You will have a variety of avenues to pursue in this engineering interim. You can develop a new product or process and should include the building of a prototype; continue on-going work on projects that have already started, such as the Smart Golf Cart, the Hydrogel 3D Printer, the Disaster Relief Desalinator, the Trash Cart, or others; learn manufacturing skills like welding and metal working, CNC fabrication, 3d printing, creating PCB's (printed circuit boards). Some of these skills will be taught by GSSM alumni; robotics team members can use the time to work on their team's robot. This course is intended for students with previous engineering design and/or skills experience, such as knowledge of 3d design, programming something like the Arduino, robotics, electronics, etc. Students must have taken at least one engineering class at GSSM, or have other documented experience. Students should consult with Dr. Parshall about their project ideas before the start of interim, ideally before Thanksgiving to make sure that we have most of the required materials and equipment on hand. Prerequisites: Permission of instructor



Course Title: Exploring Portugal and Spain

Course Description: Geographically, culturally and linguistically linked—yet distinct in their traditions and histories— Spain and Portugal make fascinating neighbors. In the landmarks of Lisbon, Evora and Algarve, Portugal's personality comes into focus. In Spain, a wide range of influences are revealed, from the Andalusian cities of Seville and Granada to the Catalan capital of Barcelona. Relive the Age of Discovery, when explorers brought treasures from around the world—now on glorious display in Portuguese palaces and Spanish cathedrals

Course Title: Viva Argentina

Course Description: Students will immerse themselves in the rich history and culture of the Río de la Plata region of Argentina. Highlights include guided tours of Buenos Aires, a visit to an Argentine Ranch, and river cruise on the Paraná River, and a guided excursion across the Río de la Plata to Uruguay to visit the beautiful Colonia del Sacramento.

Course Title: Puerto Rico: Isla del Encanto

Course Description: Have you ever wanted to travel to the Caribbean, but do not have a passport or foreign currency? Puerto Rico offers the perfect meal to any explorer hungry for a tropical paradise. Hop a short flight from Charlotte, North Carolina, to San Juan, Puerto Rico, where you will experience this US territory with an international charm due to its blend of Spanish, Indian, and African influences. Start with a picturesque tropical island, sprinkle in perfect white sand beaches and turquoise water, add lush rainforest and bioluminescent bays and stir in islets, rushing rivers, coral reefs and misty mountains. Let sit for centuries, and then mix in indigenous cultures, Spanish explorers, amazing colonial architecture, salsa music, delicious roasted pig and pinchos, a buzzing metropolis, tranquil surf towns, baseball and a complicated relationship with a super power neighbor. In this class, we will balance history, culture, adventure travel, and service in order to answer the question, “who is Puerto Rico.” Settled by indigenous cultures more than 4,000 years ago, colonized by the Spanish from 1493 until 1898, and until finally becoming a U.S. unincorporated territory in 1898, this island has had a tumultuous past. During our trip, we will be immersed Puerto Rico's history and culture in San Juan and host communities. We will visit pristine beaches and visit the only tropical rain forest in the United States National Forest system, swimming in the pools under cascading waterfalls. Additionally, we will work in a host community to contribute to a meaningful service project and have a unique glimpse into Puerto Rican culture. Together, these experiences will allow us to answer our focal questions: how do we understand the Puerto Rican complex identity and how do we understand its inclusion or exclusion within the United States?

Course Title: Exploring India and Nepal's Culture, History, and Environment

Course Description: This course begins with an exploration of India and Nepal's rich cultural and artistic traditions, religious heritage, and extraordinary ecological diversity through readings, seminars, and independent research. We then fly to Delhi to begin our 14-day journey. India's capital city houses medieval fortifications, Mughal mausoleums, lively marketplaces, colonial-era architecture, and modern mega-malls. We will walk the streets of Old Delhi, visit the magnificent Red Fort and Mama Masjid, and tour New Delhi, the modern capital of India created during the British Raj. We will see the extraordinarily beautiful Taj Mahal in Agra, and join a tiger Safari at Ranthambore National Park. We



then fly to Kathmandu, Nepal, one of the oldest continuously inhabited places in the world. We will visit ancient Buddhist Stupas, hike the forested Himalayan foothills, and visit local crafts markets.

Course Title: A Smithsonian Interim

Course Description: Students will spend 7 days (including travel) in the Washington, DC metropolitan area with the intention of visiting as many museums as possible that are a part of the Smithsonian Institution. The time spent at each museum will be partly based on student interest. Although the focus is on the Smithsonian Institution museums, other attractions in the DC area will be visited based on student interest. Before the trip, students will learn about the history of the Smithsonian Institution and its founder (James Smithson). After the trip, students will do research to learn more about some aspect of the Smithsonian Institution that they became more interested in as a result of the trip. Although there is little to no cost for the attractions we will visit, the cost of the trip will cover transit, hotel, and meals.