
INTERSESSION
2026

Dear IMSA Students,

**Welcome to Intersession 2026!**

Intersession is a chance to **discover** new topics and disciplines, to **explore** familiar concepts in new ways, and to **engage** in experiential learning.

This year, we've divided our Intersession offerings into "Core" and "Explore" courses.

**Core** courses are structured; they take a deep dive into a field of inquiry; and they have learning outcomes that are subject to a simple evaluation (pass/fail). They may last for one week or two.

**Explore** courses are free-flowing, fun, and out-of-the-box; they are not necessarily connected to an academic subject area; and they are not subject to evaluation. They last for one week only.

You can **build your own Intersession** by selecting either one full-day Core course, OR one morning Core course plus an Explore course, each week. This catalog contains the details of **over 60 course offerings**! You can see a bird's-eye-view timetable here.

Intersession 2026 will also feature an in-person **Lecture Series** on Monday, January 5th, as well as an **Expo** on Friday, January 16th. The Expo will be an opportunity for students to present their work from Core courses to peers, Faculty, and Staff.

We are excited to welcome you to Campus for two weeks of exciting and experimental learning!

With best wishes,

**The Intersession 2026 Committee**
Michael Dean
Dr. Peter Dong
Dr. Janice Krouse
Bill McGrail
Dr. Eric Rettberg

Dr. Luke Berryman, Director of Experiential Learning
Dr. Paul Gaszak, Dean of Academics & Equity

**Participation in Intersession is a mandatory graduation requirement. All students must be on-campus and engaged in Intersession from 9:00am until 4:00pm daily, OR engaged in an authorized off-campus Travel Study program.**

# COURSES AT A GLANCE

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# COURSE DESCRIPTIONS

## WEEK ONE

### CORE COURSES (All Day, 9:00am-4:00pm)

*Humanities & The Performing Arts*

**How Can History Help Us Manage Climate Change?**

Instructor: Dr. Sheila Wille & Dr. Jessica Amacher

This course sits at the intersection of the Humanities and the Sciences. Examples from the deep past and from human history will be explored from both scientific and humanistic perspectives to give a fuller picture of them, both descriptively and prescriptively. Students will investigate their own examples to tell us what happened and what that history means for our approach to managing climate change in the current moment.

*Math & Sciences*

**Drug Discovery SIR**

Instructor: Dr. John Thurmond

Our Drug Discovery research group's goal is to design unique compounds that have the capacity to combat diseases for a wide range of disorders. Drug discovery is the process through which potential new medicines are identified. It involves a wide range of scientific disciplines, including biology, chemistry and pharmacology. Our group has collaborations with the pharmaceutical industry and academic institutions.

*Prerequisites*: Must be enrolled in the Drug Discovery SIR group for the 2025-2026 school year.

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**The Intersection of Computer Science & Chemistry**

Instructors: Dr. Joseph Golab and Dr. Ashwin Mohan

In this session, you will combine computer science and chemistry to turn experimental data collected in the lab into colorful, interactive visualizations using Python. You will learn how to make sense of messy experimental results, spot relationships between chemical variables, and see chemistry in a whole new way—through the lens of data science.

By the end of the session, you will: practice coding in Python to handle and visualize real chemical data; discover how computer science helps reveal trends and relationships in experiments; gain tools to transform numbers into stories that make chemistry come alive; and learn how to work in a chemical laboratory safely and efficiently. Whether you love the logic of coding or the mystery of molecules, this session will help you see how the two worlds bond together.

*Computer Sciences & AI*

**Introduction to Quantum Computing & Algorithms**

Instructor: Anastasia Perry & Dheeran Wiggins

This session will provide mathematical foundations of classical and quantum computing, The concepts of quantum mechanics such as superposition, measurement and entanglement lay the foundation of quantum algorithms. Some online simulations, hands-on demonstrations and games will be used to practice concepts. Google and/or IBM quantum computer simulators will be used to run and interpret quantum circuits. The session will deep dive into more complex algorithms such as teleportation, BB84, Deutch, Grover's search, and error correction algorithms. A special QA session is planned with an expert in the quantum technology industry.

*Prerequisites*: Review of Matrix multiplication, vectors

## CORE COURSES (Morning Only, 9:00am-12:30pm)

*Humanities & The Performing Arts*

### Edible Sources: The Unexpected Geopolitical History Of Iconic Food

Instructors: Dr. Shawn Bailey and Dr. Patrick Buck

What can a steaming bowl of chicken and rice or well-sauced pasta teach us about history? This course uses iconic dishes—like pad thai, spaghetti carbonara, and General Tso's chicken—as windows into the geopolitical history of the mid-20th century world. Each day of Intersession, we will trace how quintessential meals emerged from relatively recent moments of world war, forced migration, imperialism, and unexpected cultural exchange. Was Thailand's national noodle dish a modern invention of nationalist politics? How was carbonara a product of both Italian fascism and American intervention? How did an Americanized Chinese dish reflect changing ideas of national identity and taste during the onset of the Cold War? As we answer these historical questions, we will have lunch at local restaurants and sample our edible primary sources. By the end of the course, you'll never look at a takeout menu or pasta night the same way again!

*

### From The Bookleggers' Vault; Or, Choose Your Own Adventure

Instructor: Dr. Michael Hancock

Learners in this course will gain unprecedented access to the legendary English book room, rivaled only by Jedi Temples, the Hogwarts Library, and the Library of Alexandria as a sacred repository of universal esoteric and literary knowledge from the known realms. Under the Keeper's watchful eye, those deemed worthy will reverently peruse the shelves for hallowed texts not locally used in advancing the human condition in recent memory--or perhaps ever. These sadly neglected but not forgotten tomes will vie for the attention of our young acolytes, who shall, with the Keeper's assistance, select at least one of these untaught writings for forenoon study over half a fortnight. After the company has made its selection, remaining time together will be devoted to reading, discussing, and recording for posterity the outcome of our shared inquiry and collaborative endeavors.

*

**How To Make A Revolution: History, Philosophy, And Narrative In The *Star Wars* Universe's *Andor* Television Series**

Instructors: Dr. Eric Smith & Tracy Townsend

Building upon Rogue One the Andor television series explores the inner workings of the rebellion at the heart of the Star Wars universe. This intersession explores historical, philosophical, and narrative underpinnings of the series through excerpts and documentary evidence. By the end of the course, students will be well-prepared to take on the entire empire themselves. And the force will definitely be with you.

*Prerequisites*: Students are encouraged to have watched the Andor series and to have a working knowledge of the Star Wars universe.

*

**M+A = Fun Squared**

Instructors: Joyce Symoniak and Mary Beth McCarthy

Students will have the opportunity to create a Fine Arts (Visual Arts or Music) Portfolio or Journal. They will learn to construct the physical binder of the materials as well as will develop a personal plan for the contents. On-going stress relief and fun is found within the creative process of drawing, painting, playing, performing and composing music, as well as through stream of consciousness thoughts, exploration and experimentation. In addition, if fully developed, the Visual Arts or Music portfolios can be used to demonstrate Arts proficiency, during the College Admissions process.

*

**Modeling With Clay: Sculpture Tools & The Human Body**

Instructor: Lassandra Walker

The human body is a complex intricate network of systems that work together. How the body is molded consists of not only networks but intricate levels of organizations that shape how we think about the human body and its structures and functions. Modeling with clay requires art skills and creativity to move away from textbooks. Students will learn about sculpting tools and anatomical structures. Also, students will learn how to create a 2D or 3D human body from clay, and practice interpreting human form from sculpture.

*Math & Sciences*

**Core Math Concepts Review & Exploration (2 weeks)**

Instructor: Diane Martin

Want to improve your core algebra and geometry skills? A strong algebra and geometry background provide a solid foundation on which to grow your mathematical knowledge. This course is meant for sophomore students who seek to strengthen their foundational math skills in order to enhance their success in the MI Course Sequence. We will explore topics from algebra and geometry, including factoring, rational expressions, and right triangle trigonometry. Alongside our exploration, we will try out some puzzling math problems and some mathematical games.

*Prerequisite*: This course is for sophomores only.

*

**Generalized Global Symmetries in Quantum Field Theory**

Instructor: Dr. Anderson Trimm

This Intersession focuses on higher-form symmetries in QFT, whose charged objects are extended operators. Investigations into the consequences of these new symmetries have been a very active area of research over the past decade. Like ordinary global symmetries, these generalized symmetries and their 't Hooft anomalies are invariant under RG flow and thus can be used to study strongly-coupled physics inaccessible to perturbation theory. Their spontaneous breaking provides a method for studying the phase structure in the IR. We will focus on generalized symmetries in a class of 4d N=2 SCFTs, known as "class S", which include gauge theories with hypermultiplet matter as well as non-Lagrangian theories.

*Prerequisites*: Students must be taking Dr. Trimm's SIR Research group, or they must consult Dr. Trimm before applying.

*Computer Sciences & AI*

**AI, Culture, Us (2 weeks)**

Instructor: Dr. Eric Rettberg

Ideas about artificial intelligence have been circulating in science fiction and computer science for decades, but the public really took notice with ChatGPT's release in 2022, when computers suddenly started acting like us. They could write poems! Fake essays! Spit out code! Generate grotesque images with uncanny 7-fingered hands! In this intersession, we'll explore how culture has shaped AI and how AI is reshaping culture. Can machines make art, or only remix it? Should large language models make us rethink schools? What do stories like Her, Wall-E, and Ex Machina get right or wrong about our present and future? When we outsource thinking to machines, do we lose our humanity? Are large language models creative helpers or plagiarism machines? Across 8 days of discussion, film viewing, reading, media analysis, and creative exploration, we'll grapple with what AI means for art, culture, politics, truth, and us.

*

**Teaching Your Computer To Play Games**

Instructor: Dr. Peter Dong

One of the most natural applications of artificial intelligence is playing games, since their clear rules and simple win conditions are much more straightforward than more complicated tasks like facial recognition or natural language processing. In short, computers are really good at games. In this class, students will learn some basic AI techniques for simple games (board games, not video games) and will develop algorithms to play these games. The session will culminate in a competition of students' programs against each other - because both computers and humans like to win.

*Prerequisites*: Students should have a basic familiarity with programming in Python at the level of CSI.

*Business, Entrepreneurship, & Life Skills*

**Personal Finance**

Instructor: Paul Rummelhoff

Personal Finance equips students with the skills to make informed choices about money and future financial well-being. Topics include income, budgeting, spending, credit, saving, investing, insurance, and taxes. Students will gain practical experience by creating personal and household budgets, managing simulated checking and savings accounts, and exploring strategies for debt and credit management. By the end of the course, students will have a solid foundation in financial literacy to help guide responsible decisions throughout their lives.

*

**Talent Inc.: Entrepreneurship Basics**

Instructor: Steve Goldblatt

INC Intersession is a week-long introductory course for students unable to participate in INC. It provides the same content as INC in a faster-paced, condensed manner. The introductory course consists of content-based lectures and interactive activities to teach all of the entrepreneurial concepts needed to develop a business idea. IMSA emphasizes an entrepreneurial spirit in its student body and provides many opportunities at IN2 for students to advance their startups. However, IMSA does not have resources to guide students to start their business from scratch.

Realizing this, Total Applied Learning for ENTrepreneurs (TALENT), a student-led co-curricular program sponsored by IN2, developed a curriculum for three separate programs. INCis the first of this series, INC Intersession is the second, and both are prerequisites for the second-semester program, THINK.

*

**Who Wants To Be A Millionaire?**

Instructor: John Wood
*Mr. Wood is an entrepreneur with a BS in Marketing from Miami University Ohio. He's been running his own marketing agency for 35 plus years, and he's been investing for nearly 50 years - having bought his first investment at the age of 18.*

Young people today have a great asset on their side: time. That is the most valuable thing anyone could ever own. Over an extended period of time, one can make for a comfortable life if they start young making financial decisions on the basics of saving, investing, compounding, stocks, bonds, retirement accounts, credit, mortgage, and much more. This course will include actual examples and applications of these conceptual areas. There will also be a presentation by Charles Schwab and Wintrust bank, and representatives will give presentations in their areas of expertise. Finally, students will be given some investment and credit information and be challenged to present back their plan on how they would manage the situations.

*Gaming. Workshopping, & Other Activities*

**Dungeons & Dragons (2 weeks)**

Instructors: Dr. Eric Hawker, Steve Ducher, Michael Dean

In this intersession students will be able to learn how to play Dungeons & Dragons (D&D), will write a short adventure, and will play D&D. Students will learn how to create and run a D&D adventure which in essence is an interactive story. Students will also learn how to roleplay scenarios, will learn how to collaborate and think critically about problems.

*

**Introduction to Bridge**

Instructor: Dr. Micah Fogel

Bridge is a card game that is played around the world. Success at bridge requires careful analysis, forethought, planning, ability to work as part of a team, a bit of psychology, and even a little flair for the dramatic. It has been shown that playing bridge supports many cognitive abilities such as memory, the ability to concentrate, and communication skills. It is a rewarding challenge that can even open social and career doors.

*Prerequisites*: This course is intended for beginners only.

*

**FRC & FTC Robotics, Session #1**

Instructor: Grant Bell

The FIRST Robotics Competition (**FRC**) is an annual international competition where IMSA partners with mentors to design, build, and program a robot for the competition. Intersession week is an ideal time to design and begin building the robot. In the intersession, students will strategically analyze the competition to distill optimal design concepts. Utilizing these concepts, they will collaboratively design, draft, and prototype multiple robots and components in the search for an optimal design. This Intersession is mandatory for all members of the IMSA FTC/FRC Robotics teams, and only current members can participate.

The FIRST Tech Challenge Competition (**FTC**) is a youth robotics program where teams practice engineering innovation as they design, build, and program a robot to compete. In this course, Titan Robotics FTC team members will gain robotics knowledge relevant to the FTC game tasks, and they will design, prototype, and finalize a competitive robot to be used for the duration of the 2025-2026 FTC Robotics season.

*Prerequisite*: Students must already be on the Titan Robotics team.

*

**Swimming For A Lifetime of Fitness (2 weeks)**

Instructors: Brooke Schmidt and Samantha White

During this session we will focus on basic stroke techniques for the four competition strokes, freestyle, butterfly, backstroke, and breaststroke, as well as side stroke and elementary backstroke. At the end of each session we'll play water games such as volleyball and water polo. Come join us and improve your swimming skills and learn how to stay fit for life. Equipment needed: swim suit and googles. No previous experience necessary.

## EXPLORE COURSES (1:30pm-4:00pm)

*Humanities & The Performing Arts*

### The Bible in the 21st Century

Instructor: Dr. Peter Dong

The Bible is perhaps the most influential piece of literature in the history of Western civilization, and remains a potent force today in society, philosophy, and politics. At the same time, while two-thirds of Americans identify as Christians, more than half have never actually read more than a passage or two of the Bible. This class will examine the text of the Bible with a view toward understanding what it says (as opposed to what others say about it) on various topics. We will examine timeless issues such as creation, salvation, and free will as well as more modern issues such as slavery, gender, and homosexuality.

*

### Do Touch My Hair

Instructors: Simone Alexander and Rodrigo Sanchez

In the black community hair can feel like a taboo topic, with comments made from people within our community as well as snide remarks from people outside of our community. Growing up, black children, mainly black girls, hear “negative” things about their hair such as it being “too much”, “too nappy”, or “a handful”. And as our children grow older they hear “Is that your real hair?”, or “Can I touch it?”. With comments like these, it's easy for our black community to grow ashamed of our hair or even want to hide it. Even rumors that black people can’t grow hair affect how our community treats hair. But hair holds so much power, it can be used to tell a story, to hide maps, to store food, or to express ourselves. Because of this we want to bring DO Touch My Hair to IMSA so that the black community at IMSA as well as anyone who would like to learn can come and find out more about their hair, how to take care of it, and how to build a positive relationship with their hair.

*

### Finding Art

Instructors: Joseph Marshall and Joyce Symoniak

Students will be given an introduction to several modern art movements and their artists, with a particular focus on the French artist Marcel Duchamp and the art form of ready-mades. This intersession program will include a field trip to the Art Institute of Chicago where one of Duchamp's most iconic works, Bottle Rack, was recently acquired. During this Intersession course we will consider the meaning of art that is found, transformed and re-contextualized.

Students will learn to exalt and elevate the everyday into works of art that challenge our accepted definitions of beauty, representation, perspective and craft. Just as Marcel Duchamp responded to the rise of industrial production, students will define contemporary understandings of the ready-made. They will reexamine and transpose current trends and issues important to them in unexpected contexts and perspectives, culminating in an exhibit of their own artistic work on the last day of Intersession.

*

**Make A Short Film!**

Instructor: Sam Walder
*Sam Walder is an IMSA Alum who spent nine years running a startup that raised $20M and that created video content for music-learners. He has worked on multiple indie films.*

In this course, you will make a short movie from scratch with your classmates. We will journey through ideation, script writing, filming, editing, post-production, and optionally pitching to producers.

*

**Philosophy and *The Matrix***

Instructor: Dr. Luke Berryman

"You've felt it your entire life: that there's something wrong with the world. You don't know what it is, but it's there, like a splinter in your mind, driving you mad." *The Matrix* was one of the biggest blockbusters of the 1990s. It was also based on the philosophy of Jean Baudrillard, a renegade 20th-century French writer and thinker who remains highly divisive. Students on this course take the red pill and find out how deep the rabbit-hole goes - by exploring the use of Baudrillard's theories in the movie, and their continued relevance to the world today.

*Math & Sciences*

**Exploring the Natural World**

Instructors: Desirae Klimek and Dr. Ashley Ott

Put on your snow boots and come enjoy the great outdoors with Biology and English faculty! This Intersession will offer guided nature meditation, nature hikes, and a culminating trip to Garfield Park Conservatory. We will learn from the writers, scientists, and artists that have come before us, applying their techniques for careful observation and artistic expression to our own field journaling and hands-on nature art, all while experiencing the restorative benefits of being outdoors. By the end of this week, you'll also have learned how to make your own paper and sprout seedlings for your own IMSA plant.

*Business, Entrepreneurship, & Life Skills*

**Student Loans 101**

Instructor: PK Parekh

*PK Parekh is an IMSA Alum whose career included building and leading a student loan business, and a mortgage business that was the largest provider of home equity loans nationally*.

Thinking about borrowing money for college? We will cover the major types of loans used to pay for college (federal student loans including changes for 2026-27, private education loans, and home equity loans), their key features and differences, options to make or postpone payments while in school and afterward, costs of these loans over time, and pros and cons of loan consolidation or refinancing options. We will do some online research to learn where to find information about student loans, discuss the completeness and reliability of that information, practice comparison shopping, and create financial models to estimate costs of various loan options. Along the way, we will learn important financial concepts such as interest rate vs. annual percentage rate, why one could be higher or lower than the other, compounding, capitalization, amortization of payments, and why the total of payments is usually much higher than the amount borrowed.

*

**What Is Emotional Intelligence & Why Should I Care?**

Instructor: Dr. Anita White

Ever wish you handled stress, conflict, or group projects better? Emotional Intelligence is your key to thriving—not just surviving. High emotional intelligence is linked to improved group work, interpersonal relationships and enhanced self-awareness for better decision making. Learn about Emotional Intelligence, complete an assessment that identifies your emotional intelligence strengths and learn skills to help you improve in areas requiring growth. Invest in yourself—build the emotional skills that set successful people apart.

*Gaming. Workshopping, & Other Activities*

**The Art of Mahjong: Strategy & Play**

Instructor: Dr. Brian Trainor & Dr. Terry Leung

Discover the exciting Chinese game of mahjong in this welcoming, beginner-friendly class! No experience is required—just bring your curiosity and a love of games. You'll start by learning the rules and basic strategy of this classic tile game. As you play, we'll explore the role of probability and decision-making. Along the way, you'll pick up strategies that balance luck with skill, sharpening both your memory and analytical thinking. Whether you're aiming to master the game or just enjoy friendly competition, this class offers the perfect mix of learning and play.

*

**The Fundamentals of Volleyball**

Instructor: Clarissa Jimenez

Students will learn the fundamental techniques of serving, passing, setting, and hitting. Through engaging drills and scrimmages, players will build confidence and improve their overall skill level. This course is open for any level; whether you're a beginner or you play on a team, this course offers a supportive environment to learn and have fun all while developing a deeper understanding of volleyball strategy and games.

*

**Indoor Rock Climbing**

Instructor: Grant Bell

Reach new heights in the Indoor Rock Climbing Intersession! This one week course will include one day of on-campus information and training to become familiar with some basics of climbing, and three days of climbing at Vertical Endeavors in Glendale Heights. We will receive additional training at VE and be able to explore all their climbing walls and bouldering problems. No climbing experience is needed! Make sure to dress in comfortable athletic clothing you don't mind getting chalk on. If you already own climbing equipment (harness, shoes, chalk bag, etc.) you are welcome to bring and use them.

*

**Introduction to Sewing**

Instructor: Susan Kemph
*Ms. Kemph is an Alumni IMSA Parent. She has been sewing, knitting, and practicing other fiber arts for over 40 years.*

Learn the basics of sewing on a sewing machine by completing a log cabin quilted pillow. Students will learn about sewing terms, how to thread a sewing machine, basic piecing and quilting, and how to sew in a zipper.

*

**Knot Again!**

Instructor: Lingyi Meng and Evan Brummet

This Intersession will teach you how to crochet. Have you ever thought about "making things", but haven't found a good time to actually "get started"? Or are you already a DIY lover, but haven't been able to explore knitting or crochet? If so, this Intersession is perfect for you. We will learn about basic crochet techniques, and then make a few items such as scarves, hats, and even stuffed animals and sweaters.

*

**Let's Play Bridge!**

Instructor: Dr. Micah Fogel

Bridge is a card game that is played around the world. Success at bridge requires careful analysis, forethought, planning, ability to work as part of a team, a bit of psychology, and even a little flair for the dramatic. It has been shown that playing bridge supports many cognitive abilities such as memory, the ability to concentrate, and communication skills. It is a rewarding challenge that can even open social and career doors.

*Prerequisites*: Students should ideally be familiar with trick-taking card games such as hearts, spades, pinochle, or euchre.

*

**Light Lab: Design and Build a Custom LED Sign**

Instructor: Cassandra Armstrong

Experiment with light, color, and circuits as you create a personalized LED “neon” sign. You’ll craft a unique design, plan the wiring layout, and solder flexible LED strips to bring your design to life. Along the way, learn a bit about circuitry and how to safely power and mount your creation. Leave with your finished sign—and the skills to keep lighting up new ideas!

*

**How to Train a Super Smash Bro Player**

Instructor: Cesar Patino

Are you looking to level up your gameplay in Super Smash Bros Ultimate? Then look no further than this SSBU Intersession, designed to teach you competitive techniques and the most effective strategies from top players including former IMSA State champions. Through guided practice and analyzing your gameplay, we hope you’ll improve your mechanics, decision-making, and teamwork. Whether you’re a casual player or a serious competitor, this course offers the tips and tricks to help you become the best player you can be!

# WEEK TWO

## CORE COURSES (All Day, 9:00am-4:00pm)

*Humanities & The Performing Arts*

**Let's Make a Movie!**

Instructor: Bill McGrail

Participants will embark on a week-long learning experience that will teach the basic concepts of storytelling through media production. Participants will gain hands-on experience with script writing, location scouting, filming/production, sound effects and soundtrack creation, post production editing and much more! The experience will culminate in the creation of a trailer, short film, documentary or music video. Participants will help decide what we make for the final project.

*Math & Sciences*

**Monoidal Categories for Quantum Theory**

Instructor: Dheeran Wiggins
*Mr. Wiggins is an IMSA Alum who has contributed to multiple years of mathematical quantum computation research under Dr. Roy Araiza and Dr. Igor Mineyev at the University of Illinois Urbana-Champaign*.

Introduced into physics literature by Roger Penrose in the early 1970s to simplify the indexing of tensor calculations, the Penrose graphical calculus has become a compelling diagrammatic tool for contemporary quantum theory. As it turns out, Penrose's notation is an instance of a wider class of graphical calculi associated with monoidal categories. Where categories generalize the mathematical notions of sets and functions, monoidal categories, in part, generalize multiplication of natural numbers to multiplication of structures. Notably, a variety of monoidal categories naturally encodes the operation of tensoring Hilbert spaces, and thus of combining quantum systems. After introducing the rudiments of category theory and quantum computation, we will study states, effects, superposition, and measurement from the formal perspective of symmetric monoidal dagger categories. In particular, we will emphasize the graphical calculus associated with these categories, which will prepare students for using Penrose notation or the ZX calculus.

*Prerequisites*: One proof-based mathematics course (required), Linear Algebra or Modern Physics (recommended)

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**The Pulsar Search Collaboratory: An Introduction to Astronomy Research**

Instructor: Matthew McCutcheon

Have you ever wondered how research in astronomy is conducted? Is it possible for high school students to participate in astronomical research? This Intersession will provide an introduction to a range of fascinating astronomical topics, including exoplanets, pulsars, and the process of stellar evolution. We will also explore key methods used in astronomical research, offering students a glimpse into how discoveries are made in these fields. After this introductory overview, students will have the opportunity to engage with the Pulsar Search Collaboratory, analyzing previously unexamined data in our own search for pulsars. No prior knowledge is required, and students are not obligated to pursue further research in this area. However, for

those interested, this Intersession could serve as a valuable introduction to the world of astronomy and research.

*Gaming. Workshopping, & Other Activities*

**FRC & FTC Robotics, Session #2**

Instructor: Grant Bell

The FIRST Robotics Competition (**FRC**) is an annual international competition where IMSA partners with mentors to design, build, and program a robot for the competition. Intersession week is an ideal time to design and begin building the robot. In the intersession, students will strategically analyze the competition to distill optimal design concepts. Utilizing these concepts, they will collaboratively design, draft, and prototype multiple robots and components in the search for an optimal design. This Intersession is mandatory for all members of the IMSA FTC/FRC Robotics teams, and only current members can participate.

The FIRST Tech Challenge Competition (**FTC**) is a youth robotics program where teams practice engineering innovation as they design, build, and program a robot to compete. In this course, Titan Robotics FTC team members will gain robotics knowledge relevant to the FTC game tasks, and they will design, prototype, and finalize a competitive robot to be used for the duration of the 2025-2026 FTC Robotics season.

*Prerequisite*: Students must already be on the Titan Robotics team.

## CORE COURSES (Morning Only, 9:00am-12:30pm)

*Humanities & The Performing Arts*

### Arrangement & Orchestration

Dr. Peter Dong

Very few songs are written for the instruments or performers you actually need. Most of the time, you need to adjust the music to fit the instruments, players, and occasion. But arrangement of a piece is more than just transcribing notes; every arrangement is a composition in itself, requiring just as much skill and care as the original—sometimes more. Students in this course will learn about the craft of arrangement and orchestration, how to use the qualities of different instruments to their best potential, and how to adjust the harmonic structure and accompaniment of a song to suit their needs. In this course, students will create, perform, and record an arrangement of an existing piece as they learn about the often-neglected art of arrangement.

*Prerequisites*: Students should have basic proficiency in at least one instrument (including voice) and should know how to read music.

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### Chinese Artistry: Calligraphy, Painting, & Paper Cutting Mastery

Instructors: Sophie Wang & Christine Zhang

This session will explore the rich artistic traditions that have shaped Chinese culture for centuries. This immersive experience delves into three key art forms: calligraphy, painting, and paper cutting, providing participants with a comprehensive understanding of their history, techniques, and cultural significance. Participants will embark on a creative journey that will introduce them to the graceful strokes of Chinese calligraphy, where they'll learn to wield the brush with precision and appreciate the elegance of characters. In the painting segment, attendees will unlock their inner artists as they discover the secrets behind traditional Chinese landscape and floral paintings, incorporating techniques like ink wash and color blending. Furthermore, the session will delve into the intricate art of paper cutting, showcasing the delicate craftsmanship and symbolism behind this ancient folk art. By the end of the session, participants will have honed their skills and gained a profound appreciation for Chinese artistry, leaving them with their own beautiful creations and a deeper cultural understanding of China's artistic heritage. This session promises to be a transformative and enlightening experience for all who attend.

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**Measuring Democracy and Freedom**

Instructor: Mike Smeltzer
*Mr. Smeltzer is an IMSA Alum who served as the Senior Research Analyst and project lead of Freedom House's Nations in Transit, a 30-year longitudinal study of democratic governance in the post-Communist Space. He has a master's degree in Russian, East European, and Central Asian Studies from Harvard.*

How do we know if a country is truly free? This one-week course introduces students to the leading global indices that measure democracy and human rights, including Freedom House's Nations in Transit, which the instructor previously led. Over four hours each day, students will explore how these indices are built, what they reveal about political change, and where their limits lie. Sessions combine short lectures on the theory and methodology of democracy measurement with group discussions on contested cases and hands-on activities that simulate rating exercises. By the end of the week, students will not only understand the strengths and weaknesses of current measures, but also practice thinking critically about how data influences global debates on freedom and governance. The course prepares students to evaluate democratic trends with rigor and skepticism rather than taking scores at face value.

*

**Music Performance! Classical to Broadway**

Instructors: Mary Beth McCarthy, Rudy Kammel, Dr. Janice Krouse

Participants will develop and polish performance skills through practice, dialogue and individualized coaching sessions. Tips for professional performance techniques will be discussed. Students will have solo/ensemble opportunities in a variety of musical genres. The final goal will be a featured performance at the IMSA Expo. If you are currently enrolled in a music course, this could also serve as an opportunity to prepare music for the IHSA Solo/Ensemble Contest and/or future concerts.

Prerequisites: Students must be able to perform at an intermediate level and bring at least one piece that they would like to work on.

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**Who Owns the Earth? Resources, Power, and Resistance in the Americas**

Instructor: McKenzie Shaffer-Kay

How often do you really think about where the things in your life come from—the water you drink, the fruit you eat, or even the gas that makes your car move? What does "America" really mean? In this class we're going to explore those questions (and more) by looking at the Americas, North and South, through the lens of natural resources and the histories behind them. Don't expect a textbook to memorize; we'll dive into poetry, books, films, short videos, articles, websites, and other unexpected sources to uncover stories you probably haven't heard before. You'll get the chance to debate ideas, practice public speaking, sharpen your analytical skills, and most importantly, figure out your own perspective on histories and events that rarely make it into standard U.S. classrooms. This isn't just about memorizing facts; it's about rethinking the world you live in and asking bigger questions about how we got here and where we're going.

*Prerequisite*: Students will benefit from having taken American Studies, but the class is open to all.

*Math & Sciences*

**Essential Clinical Skills for Future Healthcare Professionals**

Instructor: Prof. Lara India
*Prof. India, MD, is an IMSA Alum and a specialist with the Froedtert & MCW health network. She specializes in anesthesiology and practices at Froedtert Hospital.*

Ever wondered how doctors solve medical mysteries? This course transforms you into a medical detective, learning the essential skills used across all healthcare professions. You will work with simulated patient cases, each with a hidden diagnosis that you must uncover through systematic investigation. You'll learn the fundamentals of medical interviewing—asking the right questions to extract crucial clues from patients. Explore physical examination techniques used across medical professionals to gather evidence from the human body. Then, apply clinical reasoning to piece together the relevant portions of the history and physical exam like solving a puzzle. This experience provides authentic insight into medical careers while developing critical thinking, communication, and analytical skills essential for any healthcare career. Perfect for students considering medicine, nursing, physical therapy, or any health-related field.

*

**Methods to Solve Ordinary Differential Equations**

Instructor: PK Parekh
*PK is an IMSA Alum with an MS in Financial Mathematics from the University of Chicago.*

We will explore some solvable types of ordinary differential equations, scientific settings in which they pop up, and techniques for finding solutions. We will also explore the ideas behind some numerical methods for finding approximate solutions to more complicated differential equations and how to make those approximations more accurate. This session is suitable for students who are interested in higher mathematics but either do not plan to take IMSA's full class in differential equations or who want a primer before taking that class.

*Prerequisites*: Calculus, including differentiation and integration

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**Numbers in the Air: Juggling & the Math Behind It**

Instructor: Dan Campbell

Get ready to drop some balls... on purpose! Learn how to juggle, starting with simple tosses and building up to tricks that will impress your friends. Along the way, we will uncover the mathematics of juggling. Using siteswap notation, the code jugglers use to design patterns, we will see how numbers and rhythms shape what happens in the air. Juggling is also perfect if you are someone who always needs to fidget, since it turns restless energy into a skill. You will get to experiment with different patterns and even invent your own juggling sequences.

*Business, Entrepreneurship, & Life Skills*

**Coffee & Culture: Innovation from Bean to Cup**

Instructors: Steve Goldblatt & Andrew Reif

Students will have the opportunity to learn about innovations around the coffee industry through four different modules: (1) History & Culture (2) Roasting Techniques (3) Coffee across the STEM fields and (4) Brewing Innovations. Each day students will have the opportunity to learn through hands-on engagement. Activities will range from assisting with roasting to developing different blends of brewed coffee to exploring how engineering principles can be applied to develop new innovations.

*

**Who Wants To Be A Millionaire?**

Instructor: John Wood
*Mr. Wood is an entrepreneur with s BS in Marketing from Miami University Ohio. He has been running his own marketing agency for 35 plus years, and he's been investing for nearly 50 years - having bought his first investment at the age of 18.*

Young people today have a great asset on their side: time. That is the most valuable thing anyone could ever own. Over an extended period of time, one can make for a comfortable life if they start young making financial decisions on the basics of saving, investing, compounding, stocks, bonds, retirement accounts, credit, mortgage, and much more. This course will include actual examples and applications of these conceptual areas. There will also be a presentation by Charles Schwab and Wintrust bank, and representatives will give presentations in their areas of expertise. Finally, students will be given some investment and credit information and be challenged to present back their plan on how they would manage the situations.

*Two-week Core morning-only courses continuing from Week One*

**AI, Culture, US**
**Core Math Concepts Review and Exploration**
**Dungeons & Dragons**
**Personal Finance**
**Swimming For A Lifetime Of Fitness**

## EXPLORE COURSES (1:30pm-4:00pm)

*Humanities & The Performing Arts*

### Art Appreciation at the Chicago Art Institute

Instructors: Lori Anesi and Janine Barajas

In this Exploratory course, we will research works of art from the collection of the Art Institute. We will be able to see chosen works in person during a field trip to the museum in Chicago. The summation activity will include us sharing what we have learned, in different media formats.

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### The Art of Quilling: From Designs to Masterpieces

Instructor: Kavithaa Suresh Kumar

Step into the colorful world of paper quilling. In this hands-on session, you'll learn how to transform simple strips of paper into stunning works of art. Starting with basic coils and shapes, you'll build your way toward intricate patterns, floral designs, and even 3D creations. Each day introduces new techniques and projects, from greeting cards to decorative pieces, giving you the chance to explore both precision and creativity. By the end of the session, you'll have a collection of your own unique quilled artworks and the skills to continue this relaxing, beautiful craft on your own.

*

### Independent Reading

Instructor: Dr. Adam Kotlarczyk

Want to read more but there's never enough time? Now there is. Bring your own reading materials - fiction, nonfiction, history, poetry, graphic novels, almost anything - and spend a few hours each day reading. The only limitation is that your reading cannot be in preparation for a class or test. Research shows that independent reading – defined as "self-selected reading of a continuous text for a wide range of personal and social purposes" – enhances your reading comprehension ability, development of vocabulary, general knowledge, and empathy for others. In one study, students who frequently engaged in reading for pleasure scored higher in reading than peers who did not. When struggling readers engage in independent reading and receive

opportunities to discuss books, they make gains in reading achievement. Independent reading is also good for your mental health – a British study in 2009 found that leisure reading can reduce stress by up to 68%.

*

**Introduction to Stand-Up Comedy**

Instructor: Erica Switzer
*Ms. Switzer is an IMSA Alum with an MA English Literature and nearly a decade of experience as a professional stand-up comedian.*

In this course, students will look at the history & evolution of stand-up comedy, learn the fundamentals of stand-up comedy and joke writing. Students will learn the structure of jokes, including setup, premise, punchlines, and tags, as well as various joke forms. They will workshop jokes in class and culminate in a final 3-5 minute stand-up set.

*

**The Pen & Power: Building Your Own Narrative**

Instructor: Aspen Wheeler
*Aspen is an IMSA Alum who has guided several billion-dollar brands through process transformation utilizing the key framework of storytelling.*

The ability to tell a good story is key not only to success, but to a vivid life. Connect with a fundamental element of humanity by learning how to build and own your own narrative. Throughout the week, explore lessons on establishing narrative progression, identifying character archetypes, and creating emotional buy-in. Curate each skill while reviewing examples from film, music, business, and poetry cumulating in a storytelling event on the final day. By the end of the course, have a better understanding of storytelling's contribution to humanity, how others have owned theirs, and hold the keys to your own power. Come and learn the world's most ancient art.

*

**World War Two as Experience: Four Classes, Four Battles**

Instructor: Dr. Lee Eysturlid

This Intersession will look at four different World War II battles through a combination of brief reading, discussion, film and floor simulations. The goal is to create an understanding of the realities, complexities and decisions that made up a "battle" during the war. The students will be active in class rather than outside of it, and be expected to engage with the materials during the session. Participants will leave with a better understanding of modern conflict.

*Math & Sciences*

**Particle Physics SIR Research**

Instructor: Dr. Peter Dong

For students in Dr. Dong's SIR, this is an optional time to get some more research done. We will just be continuing the work we have been doing during the year.

*Prerequisite*: Students must be current junior or senior students enrolled in Dr. Dong's SIR.

*

**IMSA STEMbassadors: For the Love of Teaching and Learning**

Instructor: Zachary Conley

Are you enthusiastic about STEM, especially sharing it with others? Are you passionate about working with younger kids? Have you ever thought about joining STEMbassadors (a STEM educational extracurricular program at IMSA)? Well, this intersession is your perfect opportunity to give it a try. Participants will take a deep dive into inquiry, instructional methods, and classroom management during this half-day course. Participation will allow you to be a co-teacher at our February Saturday STEM event for students in grades 3-8. (Participating in this Saturday STEM Program will also provide you with Service-Learning hours.)

*Gaming. Workshopping, & Other Activities*

**Cryptic Crosswords & Other Wordy Pursuits**

Instructor: PK Parekh
*PK is an IMSA Alum and a crossword enthusiast, Puzzler contest winner, occasional puzzle creator, and the son/phone-a-friend of a world-class crossword puzzle solver (who was asked by a publisher to stop submitting contest entries because he won so many times).*

Calling all cruciverbalists! Join this session for a fun week full of crossword clue solving, including some warm ups with thematically interesting crosswords of the ordinary variety. We will then elevate our game with American cryptic crosswords, decoding clues with hidden anagrams, puns, and other wordplay. If that feels easy, we will also have some truly enigmatic British cryptic crosswords. Solve puzzles on your own or as a group. Race to the finish or take your time. Feel free to design a crossword and write the clues. Cryptogram, beehive, and other word puzzle enthusiasts are also welcome!

*

**Aerial Fitness & Yoga: Defy Gravity!**

Instructor: Dr. Marta Kaluza

Get ready to flip your workout upside down! In this aerial fitness and yoga session, you'll use silk hammocks suspended from the ceiling to stretch, strengthen, and fly. Imagine floating in mid-air as you twist, balance, and relax in new positions that make you feel like you're defying gravity. It's part workout, part adventure, and totally unforgettable. No experience needed—just bring your sense of curiosity, a little courage, and be prepared to laugh while you soar!

*

**Let's Be Well**

Instructors: David Lundgren & Mary Myers

Participants will explore various techniques to promote a healthy and well lifestyle. Some activities that may be included are backyard and traditional games, mind-body fitness like Yoga or Pilates, and traditional boot camp like fitness. Participants will be expected to wear athletic type clothing.

*

**SketchUp Studio: Design for Real-World Creativity**

Instructor: Cameron Doxey and Vivian Thurmond

In this hands-on course, we will take your 3D modeling skills further into the world of functional and creative design. From custom chess boards to fruit stands and beyond, you will learn to bring practical and artistic ideas to life using SketchUp's powerful toolset.

We will cover core modeling techniques, precise measurement tools, component creation, and layout presentation, all while encouraging creative exploration. You will design original projects tailored to your interests, whether it is a piece of furniture, a public art installation, or a display stand for your next event.

By the end of the course, you will have a portfolio-ready 3D model, a deeper understanding of SketchUp, and the ability to design with real-world production in mind. No prior 3D modeling experience is required. Just bring your ideas and a willingness to experiment.

*

**Trick-Taking Card Games**

Instructors: Evan Brummet & Lingyi Meng

We will play Euchre, Spades, Oh Hell, Literature, and possibly Whist. All games are trick taking which include counting cards and calculating probabilities. They will require strategic and logical thinking. Students will be active in learning and playing games. We will discuss and employ strategies specific to these games but are common to any trick taking game.