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	CODING
Scratch Visual Programming: Tuesday 5pm Instructor: Elena	Scratch is a visual programming language developed by MIT Media Lab where kids can easily create and share their interactive stories, animation or simple games. Using simple drag-and-drop programming, students can control their actions and interactions. In the process, they are subtly exposed to basic programming concepts. Students will create a memorable game project such as Space Invaders. This is the class to stretch the imagination of a budding programmer. **Grades 2-5**
Virtual Reality Games: Sunday 11am Instructor: Ardit	This is the program for kids who love playing video games and want to go to the next level. Learn how to create and deploy virtual reality games using Unity. The Unity game engine is used by thousands of professional game designers, and we are going to use the very same software, tools, animation techniques and C# scripting to create our very own 3D game! Learn the mechanics and intricacies behind VR, Unity, and how they all work together to create an immersive VR experience. Students will have a fun game to take away after completing this course as well as all of the knowledge needed to keep using Unity to make their very own games at home! **Grades 5+**
	CREATIVE DESIGN
Stop Motion Animation: Tuesday 6pm Instructor: Elena	In this program, kids will dive into the imaginative world of stop-motion animation using everyday materials. They'll learn to bring static objects to life, using their creativity to tell stories through movement. From concept to final cut, they'll storyboard, shoot, and edit their mini-movies using just their smartphones and accessible apps. Students will have a blast while developing important skills like critical thinking, problem-solving, and teamwork! **Grades 4-6**
Young Artists - 3D Drawing: Thursday 5pm Instructor: Jenny	This course teaches students how to create the illusion of depth and form by using linear perspective. Students will learn how to manipulate and transform scale, measure in perspective, cast shadows, create accurate slopes and accurately depict 3-dimensional objects in space.

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	Children will explore the world of two dimensional media such as pencil, colored pencil, watercolor and acrylic paint and learn how to use shading to make their pieces come to life. All materials are provided! **Grades 2-6**
Art - 3D Sculptures: Thursday 6pm Instructor: Jenny	Are you ready to unleash your creativity and dive into the mesmerizing realm of 3D art? Join other young aspiring artists as you explore, learn, and create stunning three-dimensional artworks such as paper sculptures, paper mache, decoupage, origami, etc., that will captivate the eyes and imagination! All materials are provided, so all you need to bring is your imagination and creativity! **Grades 3-6**
3D Printing: Thursday 6pm Instructor: Brett	Ever wonder "How's that made?" Discover 3D printing technology and unleash your creativity as you design and print your own models created in Tinkercad. From start to finish kids will design items of their choice. Students will be able to make precise models and watch them come to life on our 3D printer! **Grades 3-6**
	ENGINEERING
STEM Fusion 1: Monday 6pm Instructor: Polina	Curiosity peaks when children are faced with using everyday materials to solve real world problems. Students will be introduced to new challenges each week with hands-on projects that encourage problem solving and collaboration in an interactive learning framework that encourages exploration. Creative problem-solving and unique STEM skills are at the core as students participate in challenging activities that foster a love of science, technology and engineering. **Grades 1-3**
STEM Fusion 2: Monday 7pm Instructor: Polina	Through the completion of hands-on activities and challenges, students are encouraged to be creative problem solvers, critical thinkers and masters of the engineering design process while exploring concepts and questions that may not be covered in traditional science classes. Instructors will guide students as they imagine, plan, design, create, and improve upon their solutions. The emphasis is on

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	practicing with real world examples in a real world environment. **Grades 4-6**
Things that Fly: **Wednesday 5pm** **Instructor: Matt**	Calling all aviation enthusiasts and aspiring engineers! **Things that Fly** offers hands-on experiences in flight engineering, including building small rockets, creating parachutes, designing paper planes, piloting hot air balloons, flying drones, and much more. Participants will have the chance to learn about how aircraft design is affected by drafts and air currents through engaging and interactive classes. Utilizing engineering principles, participants will also tackle design and piloting challenges, providing a well-rounded understanding of flight engineering. Take your passion for aviation to new heights! **Grades 1-3**
Spherobots: **Tuesday 5pm** **Wednesday 6pm** **Instructor: Jimmy**	Dive into the world of robotics and programming. By engaging with the intuitive Scratch coding language, young students will learn the fundamentals of coding while also developing problem-solving skills to conquer exciting challenges. Whether it's guiding the robots through mazes or completing intricate tasks, **Spherobots** offers an interactive and entertaining learning experience. Our goal with **Spherobots** is to provide a hands-on introduction to robotics that lays a solid foundation for real-world applications. As kids navigate through various levels and challenges, they develop critical thinking, logical reasoning, and creativity. Get ready for endless fun! **Grades 2-4**
Robotics Intro.: **Tuesday 6pm** **Wednesday 7pm** **Instructor: Jimmy**	Fun, hands on and stimulating – this program introduces students to programming logic and reasoning using robotics engineering concepts and context. Using the LEGO EV3 platform, students learn core programming skills and utilize that knowledge to complete activities based in real world robot uses. This includes the basics of designing, programming, and controlling a fully functional robot. Students will be coached with mini-challenges and self-assessments as they build toward the final challenge. They'll brainstorm, plan, test and modify sequences of instructions to accomplish a variety of tasks. **Grades 3-5**

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Robotics Intermediate: Tuesday 7pm Instructor: Matt	This intermediate level robotics program is designed to test your imagination, creativity, and problem-solving skills by building the ultimate robot to solve a unique task and perform a specific function based on a weekly theme. We are looking for advanced robotic designs, enhanced performance in challenges, and in-depth programming of sensors to showcase your skills in various fields of STEM. It's not just about building a robot, it's about exploring the boundaries of robotics and pushing the limits of what is possible. Instructors will evaluate your creation based on its functionality, creativity, and performance in a variety of challenges. **Intro to Robotics** or equivalent experience is required. **Grades 5-8**
Electronics Exploration: Sunday 9:30 Instructor: Ardit	Are you looking to explore the world of electronics and learn how to design and build amazing projects? Look no further! Our new **Electronics Exploration** program is the perfect opportunity to unleash your creativity and innovation. You will learn about circuits, sensors, motors, capacitors, voltage, batteries, lighting and sound, and how to use them to bring your ideas to life. Our experienced instructor will guide you through hands-on activities and projects that will help you develop your math skills and engineering knowledge. **Grades 4+**
	FINANCIAL LITERACY
Junior Investors: Tuesday 5pm Instructor: Dov	The **Junior Investors** program is designed to equip aspiring investors with a foundational understanding of stock investing, enabling them to think critically about investment opportunities and approach the stock market with confidence. Through interactive learning and relatable examples, we'll nurture a passion for financial literacy and set the stage for a future where these young investors can make informed decisions about their financial goals. Program Highlights: Introduction to Stocks, Stock Market Basics, Risk and Rewards, Famous Stocks, Analyzing Companies, Long-Term vs. Short-Term, Diversification in Stocks, Virtual Stock Trading, Market Trends **Grades 4+**

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	MATHEMATICS
Math Enrichment Grade 1/2: Wednesday 6 pm Instructor: Tatiana	Beast Academy books starting with 1A will be our main workbooks in class (roughly corresponds to grade 2 US math).The main concepts, such as place value, recognizing arithmetic operations in object manipulations, basic understanding of fractions, measurement units, spatial awareness, will be addressed through hands-on activities, word problems and games. Many games and hand-on activities are inspired by works of Jane Katz, math education specialist from Moscow, as well as classical Russian math circle topics.
Math Enrichment Grade 2/3: Monday 5 pm Instructor: Tatiana	Beast Academy books starting with 2B will be our main workbooks in class (roughly corresponds to grade 3 US math). We'll build on students' basic understanding of place values to make them comfortable working with large numbers, reinforce mental math and problem solving strategies. Exposure to geometry will include hands-on experience with polygons, angles, nets of simple polyhedra. Certain classical math circle problems will be introduced from Math Kangaroo competition practice. Families will have an opportunity to sign students up for the Math Kangaroo contest if interested.
Math Enrichment, Grades 3/4: Monday 6 pm Instructor: Tatiana	Beast Academy level 3 will be used in class, incorporation grade 3 and select grade 4 common core standards in problem solving. We'll build on students' basic understanding of mathematical operations to further explore properties of numbers such as perfect squares and distributive property. Basic operations with simple fractions will be introduced. Students will work on estimations and measurements. Exposure to geometry will include hands-on experience with polygons, angles, nets of simple polyhedra, as well as calculations of area and perimeter. Certain classical math circle problems will be introduced from Math Kangaroo and MOEMS competitions. Families will have an opportunity to sign students up for the Math Kangaroo and MOEMS contests if interested.
Math Competitive, Grades 4/5:	Beast Academy level 4 will be used in class. This class will move quickly as we build on students' basic understanding of mathematical

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Monday 6 pm, Instructor: Emily	operations with fractions. decimals, and integers. Most importantly, this is the year students are introduced to counting (precursor of combinatorics) and probability, both topics quite popular in math competitions. Certain classical math circle problems will be introduced from Math Kangaroo and MOEMS competitions. Students are encouraged to participate in the Math Kangaroo contest which will take place in March of 2024 through our center, as well as the MOEMS level E contest. **New students grade 5, returning students grade 4. New students request assessment emailing tatiana@incntr.com**
Math Competitive, Grades 5/6: Monday 7 pm, Instructor: Tatiana	Beast Academy level 5 will be used in class, continued with the Prealgebra AoPS textbook. Classical Pre Algebra topics will be covered, such as integers, solving linear equations, elements of number theory, and statistics. The goal will be for students to be comfortable with competition level in problem solving. Students will also work on practice sets of Math Kangaroo, MOEMS, and MathCounts competitions. MOEMS level E contest will take place as part of this class. Students are encouraged to participate in Math Kangaroo in March of 2024. **New students grade 6, Returning students grade 5. New students request assessment emailing tatiana@incntr.com**
Math Competitive, Grade 6 Wednesday 7 pm, Instructor: Tatiana	Prealgebra AoPS textbook will be mainly used in class, supplemented by practice problem sets and Edward Zaccaro book during competition season. Classical Pre Algebra topics will be covered, such as integers, solving linear equations, elements of number theory, and statistics. The goal will be for students to be comfortable with competition level in problem solving. Students are invited to join the MOEMS contest at the center. Students are also encouraged to participate in Math Kangaroo in March of 2024. **New students request assessment emailing tatiana@incntr.com**
Math Competitive, Grades 7/8: Two groups Thursday 6 pm	The main focus of this group is going to be Geometry, with emphasis on problem solving. Select topics related to Algebra, Counting and Probability, and Number Theory will be briefly reviewed during the competition season. Students are invited to join MOEMS contest at the

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Instructor: Marsel; Thursday 7 pm Instructor: Tatiana	center. Students are also encouraged to participate in Math Kangaroo in March of 2024. **New students request assessment emailing tatiana@incntr.com**
Math Competitive, High School: Thursday 7 pm Instructor: Marsel	The main focus of this high school problem solving class is PreCalculus. In addition, students will continue preparing for AMC10/AMC12 and Purple Comet competitions. We will move quickly through the material, and students will be expected to complete and hand in homework every week. New students need to show strong performance on our evaluation test and interview to join the class. **Grades 9-12**
	CHESS
Chess, Beginner: Monday 6pm Wednesday 5pm Thursday 6pm Instructors: Tim & Orlando	Students are introduced to the game of chess, how pieces move & capture, chess rules, and how to start & finish a game successfully. While learning how the pieces move, students learn key strategies of each piece to develop good habits, thus building a solid foundation for success in chess and life. Beginning players will learn the basics of chess tactics, understand draws and develop skill at finishing and winning a game with checkmate. **Grades K+**
Chess, Advanced Beginner: Monday 5pm Wednesday 7pm Thursday 5pm Instructors: Tim & Orlando	Students build on the basics of the game of chess. While learning foundational openings, students learn key strategies of each piece to develop good habits, thus building a solid foundation for success in chess and life. Beginning players will learn the basics of chess tactics, understand draws and develop skill at finishing and winning a game with checkmate. Students are encouraged to play in Scholastic tournaments that take place twice a month on Sundays at SJIC.
Chess, Intermediate: (Rating 300-700) Monday 7pm Wednesday 6pm Thursday 7pm	Students learn to create plans, identify targets and goals, gain understanding of piece relationships, plan a few moves ahead, calculate variations, and consider their opponent's defense. All of this is helping a student learn the essentials of basic planning, whether in life or chess. Students are also encouraged to play in Scholastic tournaments that take place twice a month on Sundays at SJIC.

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Instructors: **Tim & Orlando**	
Chess, Advanced Intermediate: **(Rating 800-1100)** **Wednesday 5pm** **Instructor: Dov**	Students become strong in tactics and look 4+ moves ahead. They can identify key imbalances, formulate long-term plans, understand more complex endgames, and even develop the ability to visualize the chess board & pieces to the point of playing chess blindfolded! While developing a student's skill much further, this level also brings in key elements that are essential to understanding the deep strategic thinking that will be experienced in the Queen level. Students are also encouraged to play in Scholastic tournaments that take place twice a month on Sundays at SJIC.
Chess, Elite: **(1000 and above)** **Wednesday 6pm** **Instructor: Dov**	Students work towards becoming a Chess Master. They learn opening repertoires that tie into middlegame plans, develop deep calculation ability, and advanced endgame techniques. They also learn self-analysis, chess psychology, and high level study habits. Players who choose to work through this level develop the experience of what commitment to long-term goals, consistent study, and disciplined training can lead to – an experience that parallels success in many areas of life. Elite students are encouraged to play in South Jersey Chess Club open tournaments held on Wednesday and Sunday evenings.
Chess, Adult Advanced Beginner: **Tuesday 6pm** **Instructor: Dov**	You've got the basics but what comes next? Using the Step 2 Workbook, we will learn more advanced strategies such as attacking techniques (including great tricks like pins and discovered attacks), more advanced checkmates, and how to defend against checkmate. There will be time for social play with opportunities to chat and enjoy your strengthening skills. All adult students are encouraged to join SJIC's FREE Adult Chess Club every Wednesday and Friday night from 7:00 pm to 9:00 pm for additional relaxed casual games.
Chess, Adult Intermediate: **Tuesday 7:30pm**	This class is taught by FIDE International Trainer FIDE Master Dov Gorman. The focus of the class is positional play and middlegame

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Instructor: Dov	strategy. Topics covered: elements of positional play, evaluation, identifying key moments, and methodology for decision making. Adult students are encouraged to play in all South Jersey Chess Club open tournaments.
Chess, Adult Champions: (1700 USCF rating and above) Tuesday 7pm Instructor: Nikoloz	This class taught by International Master Nikoloz Managadze is for serious tournament players. Students work towards becoming a Chess Master. Examples are appropriate to expert and master level. Students dive deep into middlegame strategy, identifying plans, and developing deep calculation abilities. Class will cover theoretical and strategic endgame play, including examples from grandmaster games.