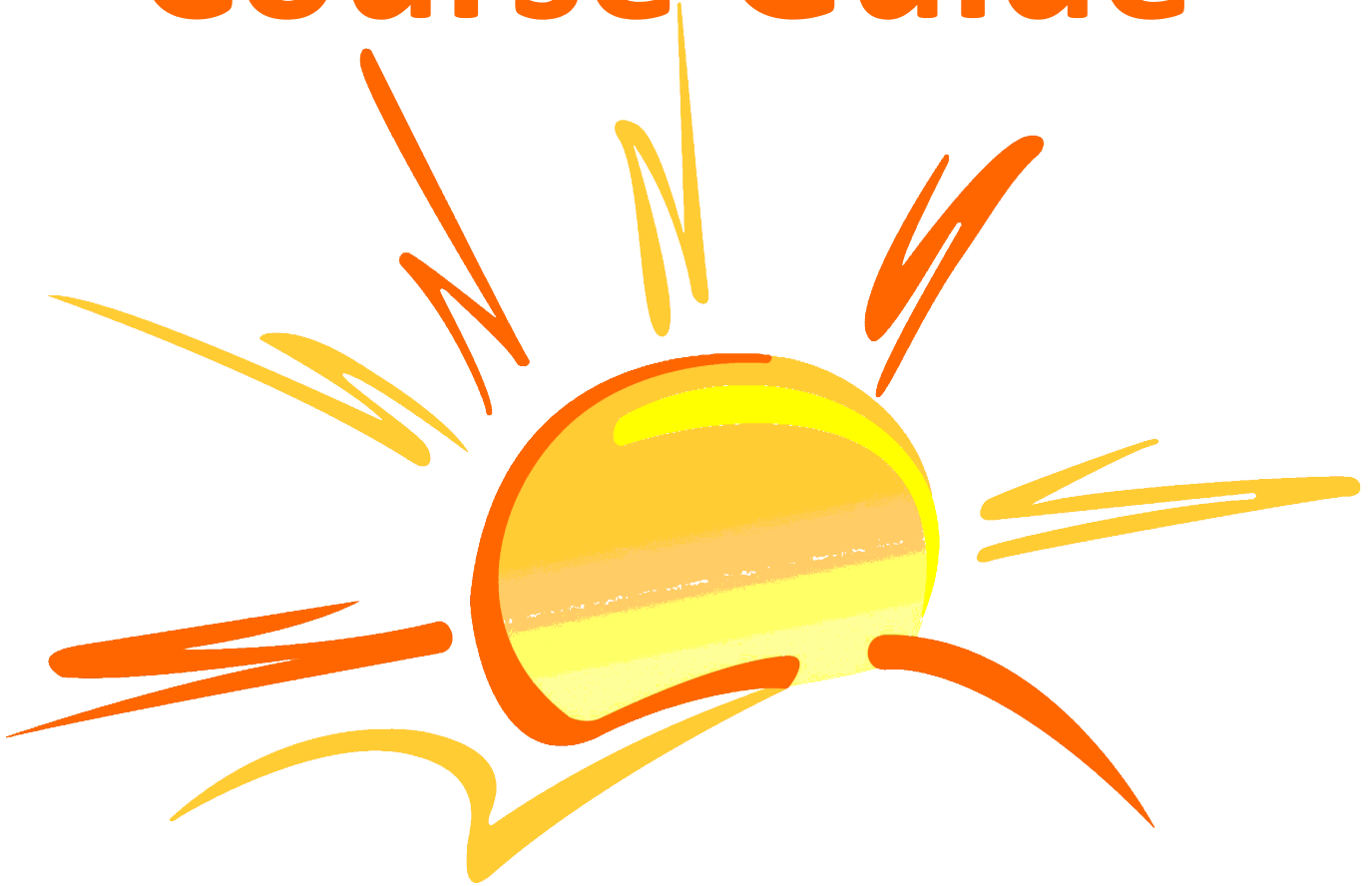


Summer of Innovation 2014

# Course Guide



Sponsored by:



Alfred University



ELMIRA COLLEGE

CORNING

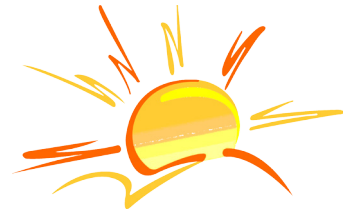


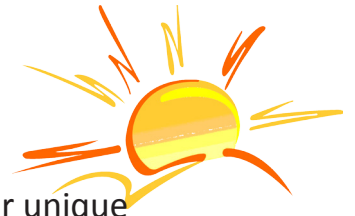
Science & Discovery Center

Notre Dame  
HIGH SCHOOL



WINGS of EAGLES  
DISCOVERY CENTER  
[www.wingsofeagles.com](http://www.wingsofeagles.com)





## What is the Summer of Innovation?

Several organizations from across the Southern Tier have united to offer unique learning opportunities for children and young adults during the summer months. These organizations have a common goal of extending the traditional school year into a third summer semester. Our offerings have another purpose as well – to provide students with STEM (Science, Technology, Engineering and Mathematics) skills that are essential to their success in the future.

## Partnering organizations include:

- Alfred State College – [www.alfredstate.edu](http://www.alfredstate.edu)
- Alfred University – [www.alfred.edu](http://www.alfred.edu)
- Arnot Health/Central New York Area Health Education Center – [www.cnyahec.org](http://www.cnyahec.org)
- Elmira College – [www.elmira.edu/seeec](http://www.elmira.edu/seeec)
- GST BOCES – [www.gstboces.org](http://www.gstboces.org)
- MST Connect
- The National Soaring Museum – [www.soaringmuseum.org](http://www.soaringmuseum.org)
- Notre Dame High School – [www.notredamehighschool.com](http://www.notredamehighschool.com)
- The Science & Discovery Center – [www.sdcsciencecenter.org](http://www.sdcsciencecenter.org)
- Tanglewood Nature Center and Museum – [www.tanglewoodnaturecenter.com](http://www.tanglewoodnaturecenter.com)
- Wings of Eagles Discovery Center – [www.wingsofeagles.com](http://www.wingsofeagles.com)

## How do I register my child for these courses?

To register your child for any of the courses listed in this brochure, please go to [www.gstboces.org](http://www.gstboces.org) and click on the link to the agency offering the course your child is interested in. From there, you will be able to access the registration information you need.

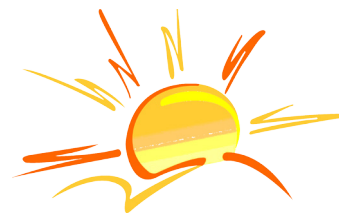
**Enrollment is limited; please register early!**

*When registering for courses, please use the grade your child will enter in the fall unless otherwise indicated.*

## What is the cost of these programs?

The cost of these academies varies. Please see the course description for information on price.

Join us for summer fun and learning at a variety of sites including:



## @Alfred State College

10 Upper College Drive, Alfred

### Career Exploration Institute (Grades 8-12)

July 21-24, 8:00 AM to 4:00 PM

Cost: \$50

Not sure what you want to be when you grow up? We can help! Join us for four fun-packed days of exploration, as well as college information, that can help you make the right choice. From Culinary Arts to Heavy Equipment, even the College Farm – this course is educational, hands-on and promises to be fun for all.

To register, call 607-587-4015 or email [ccet@alfredstate.edu](mailto:ccet@alfredstate.edu). Enrollment is limited; please register early!

## Summer Academic Enrichment Programs

### @Alfred University

1 Saxon Drive, Alfred

*To apply, complete and return the application form found on the web page indicated for each camp. Applications submitted after the deadline dates will be accepted if space is available. If applying after the deadline, please call 607-871-2612 to inquire about space availability.*

### Astronomy Camp (Grades 10-12)

July 20-24

Cost: \$895

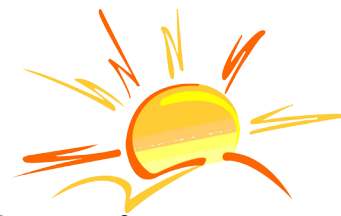
This popular residential camp is for students who love astronomy and want to spend time learning more about this fascinating subject with others who share their passion. Campers enjoy a mix of night and daytime classes & activities involving extensive use of the telescopes and electronics at AU's Stull Observatory. **Application deadline is April 15, but registration will continue until the camp is full.** For further information, please visit [www.alfred.edu/summer/camps/astronomy.cfm](http://www.alfred.edu/summer/camps/astronomy.cfm)

### Ceramic & Glass Engineering Camp (Grades 11-12)

June 29-July 3

Cost: \$895 residential, \$625 commuter

Find out all about the exciting field of ceramic and glass engineering! This camp offers dynamic hands-on lab experiences in ceramic processing, tape casting, glass melting and press forming. Each student will cast a glass piece to take home. **Application deadline is April 15, but registration will continue until the camp is full.** For further information, please visit [www.alfred.edu/summer/camps/science.cfm](http://www.alfred.edu/summer/camps/science.cfm)



## Computer Engineering Camp (Ages 12-17)

July 6-10

**Cost: \$895 residential, \$625 commuter**

Learn about video game design, microcontrollers, computer languages, web page design, software applications, simple robotics and more! This camp offers creative and practical programming experiences for both basic and advanced students. **Application deadline is April 15, but registration will continue until the camp is full.** For further information, please visit [www.alfred.edu/summer/camps/computer-engr.cfm](http://www.alfred.edu/summer/camps/computer-engr.cfm)

## Consumer Chemistry Camp (Ages 14-17)

July 13-17

**Cost: \$895 residential, \$625 commuter**

Have you ever wondered why and how hair dye works, what makes diet soda sweet, what electrolytes are good for, or how detergent gets your clothes clean? This camp will help answer those questions and many more! Laboratory activities will help you develop a deeper understanding of household products in a fun environment. **Application deadline is April 15, but registration will continue until the camp is full.** For further information, please visit [www.alfred.edu/summer/camps/chemistry.cfm](http://www.alfred.edu/summer/camps/chemistry.cfm)

## Polymers & Metals Science Camp (Grades 11-12)

June 29-July 3

**Cost: \$895 residential, \$625 commuter**

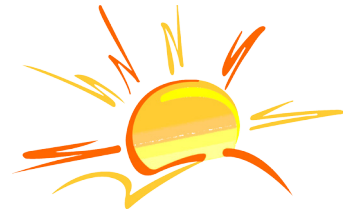
Elastic plastic and plastic metal?! Polymers, both natural and synthetic, have unique properties based on their chemistry and physics. Discover how and why they separate our society from that of a century ago. And, while polymers may often be referred to as “plastics,” metals also exhibit “plastic behavior” Experience hands-on lab experiences related to making, testing and experiencing polymers and metals. **Application deadline is April 15, but registration will continue until the camp is full.** For further information, please visit [www.alfred.edu/summer/camps/polymers.cfm](http://www.alfred.edu/summer/camps/polymers.cfm)

## Robotics Engineering Camp (Grades 10-12)

July 20-24

**Cost: \$895 residential, \$625 commuter**

Build a robot this summer! This camp, based on the VEX Robotics System, offers a dynamic platform for learning about areas rich with career opportunities spanning science, technology, engineering and math. Student teams will assemble robots and program them to perform various functions and to compete in a classroom football/soccer game on the last day of camp. **Application deadline is April 15, but registration will continue until the camp is full.** For further information, please visit [www.alfred.edu/summer/camps/robotics.cfm](http://www.alfred.edu/summer/camps/robotics.cfm)



## Engineering Day Camp (Grades 1-8)

July 7-10

8:30 to 11:30 AM for grades 1-3

12:30 to 3:30 PM for grades 4-8

Cost: \$160

Top quality instruction and learning materials are provided by All About Learning, Inc., whose classes feature science, technology, engineering and mathematics concepts and 21st century educational skills of critical thinking, problem solving, collaboration, agility and adaptability, curiosity and imagination. Students use unique LEGO® kits to creatively build and modify machines applying basic engineering principles. Throughout the camp, they will learn a variety of concepts and apply their acquired knowledge about gearing and gear ratios, simple machines, problem solving and communication skills. This challenges students to incorporate the traits of an engineer in a classroom setting. This camp includes a take-home project students can keep! **Enrollment deadline is June 20.** For further information, please visit [www.alfred.edu/summer/camps/engineering-day.cfm](http://www.alfred.edu/summer/camps/engineering-day.cfm)

*We also offer residential camps in Art, Creative Writing, Theatre, Equestrian and Swimming, and day camps in Theatre, Art, Equestrian and Tennis. Please visit [www.alfred.edu/summer](http://www.alfred.edu/summer) for further information.*

## @Arnot Ogden Medical Center

600 Roe Avenue, Elmira

### MASH Camp (Grades 8-9)

July 28-31

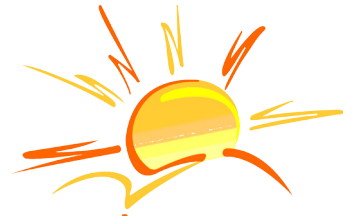
If you've ever wondered what it's like to perform surgery or work in the ER, this is a great opportunity. Spend four days in the world of hospital healthcare this summer, sponsored by the Arnot Ogden Medical Center and the Central New York Area Health Education Center (CNYAHEC).

A variety of careers will be highlighted during fun, hands-on workshops for students, including lots of attention from dedicated health professionals. All campers will receive hospital scrubs to wear each day at camp, breakfast and lunch, a T-shirt and education materials. The camp fee is \$45 per student. CNYAHEC is pleased to offer scholarships to those students who need assistance with the registration fee.

Space is limited to 18 students at MASH Camp, and applications will be determined by a selection process. **The application deadline is Friday, May 2.** Students can access the online application by visiting the CNYAHEC website [www.cnyahec.com](http://www.cnyahec.com).

# @Elmira College

One Park Place, Elmira



## Summer Educational Experience at Elmira College (or SEE EC)

*These summer programs are residential and include college credit-bearing courses.*

### SEE EC Pre-College Experience (Grades 9-12)

**July 27-August 9, live and learn on the EC Campus**

This program provides an opportunity for high school students to experience college life and take college-level courses while living in a diverse campus environment. The College offers seven courses in a variety of different fields designed for pre-college students. This program allows participants to experience college life while they explore academic areas of interest. The program also helps participants develop early strategies, both academically and personally, that will lead toward success. Credits earned during the two-week summer college program are accepted at Elmira College and are normally transferable to other colleges. **Application deadline is May 15, 2014.**

### SEE EC – The Student Racing Challenge (Grades 9-12)

**August 3-9, live and learn on the EC Campus**

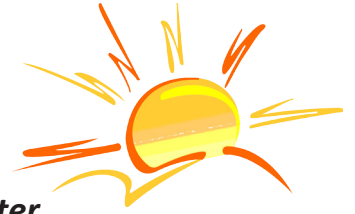
As part of the Student Racing Challenge, Elmira College features the Race Engineering Camp, a one-week residential program designed to teach the science of motor sports through mathematical modeling, physics and analysis. One college mathematics credit is earned by completing this program. Using a 1:10 scale RC car and controller, you choose the best gears, chassis geometry, map the ideal drive path around a curve and – just like the car companies do – use a skid pad and Newton’s Laws of Motion to find the coefficient of friction. This week will end with a visit for students and their families to Watkins Glen International for lunch and admission to the Zippo 200 NASCAR® Nationwide Series race. **Application deadline is June 2, 2014.**

**For more information and to download a SEE EC application, visit [www.elmira.edu/seeec](http://www.elmira.edu/seeec) or call Elmira College at (607) 735-1825.**

# @GST BOCES Bush Education Center

459 Philo Road, Elmira

*Please note: There is no charge for courses at the Bush Education Center.*



## What is Animal Science? (Grades 7-10)

July 7-11

**Morning Session: 8:00 AM to 11:00 AM**

**Afternoon Session: 11:30 AM to 2:30 PM**

Animal Science is a complex field, so be prepared for five busy days! We'll start with basics, including external parts of a dog, and move on to weighing a dog and muzzling. On Day 2, learn how to safely groom a dog including bathing, nail clipping, cleaning a dog's ears and brushing/combing. The next day, learn how to identify different wildlife tracks and create your own field guide with images of tracks and information on animals. We'll go on a hike to see how many animal tracks we can identify. On Day 4, we will take a field trip to a local farm and learn about animal agriculture (such as breeds, care and feeding). On the final day, create your own animal products by making mozzarella cheese.

## Intro to Auto Body (Grades 7-10)

July 7-11, 8:00 to 11:00 AM

If you've dreamed of restoring an old car or working in an auto body shop, this hands-on course is for you! We'll get right down to business and teach you basic surface preparation and painting, as well as auto detailing and cleaning. You'll also learn and practice basic spraying, sanding and masking skills.

## Cosmetology: Cosmolicious 101 (Grades 7-10)

August 4-8

**Morning Session: 8:00 to 10:30 AM**

**Afternoon Session: 11:30 AM to 2:00 PM**

Do you enjoy making people feel better about themselves? Come to the GST BOCES Cosmetology Summer Academy at the Bush Campus. Each student will learn the importance of hygiene and sanitation, as well as braiding, manicuring, pedicuring and how to do plain facials. Summer of Innovation students will get to work one-on-one with senior students from the BOCES Cosmetology program.

## Culinary Arts: A Pinch of This and a Splash of That (Grades 7-10)

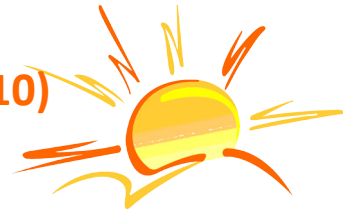
July 7-11

**Morning Session: 8:00 to 11:00 AM**

**Afternoon Session 11:30 AM to 2:30 PM**

Learn the history of some of your favorite foods and how to make them, including pretzels, pasta and pizza. Create and compare an English muffin and a berry muffin. On the last day, bake and decorate your own summer-themed cake to take home!





## **Digital Media Arts: Make Your Own T-Shirt (Grades 7-10)**

**August 4-8**

**Morning Session: 8:00 to 11:00 AM**

**Afternoon Session: 11:30 AM to 2:30 PM**

Wearable art! Learn about the different types of popular T-shirt designs, then use the Internet to research examples you'd like to replicate for your own design. Brainstorm several design ideas, choose your favorite and scan it. You'll learn how to add color and text digitally in Photoshop CS6. From there, print your design onto sublimation paper and transfer it onto a T-shirt you can keep.

## **@GST BOCES Coopers Education Center**

**9579 Vocational Drive, Painted Post**

***Please note: There is no charge for courses at the Coopers Education Center.***

### **Auto Body (Grades 7-10)**

**June 26, 27, 30 & July 1, 9:00 AM to 2:30 PM**

Would you like to learn how to customize your car? Start here! We'll teach you some cool Auto Body techniques, including airbrushing, custom paint applications using stencils and freehand techniques. You'll get hands-on experience when you lay out a design and apply it to a panel. At the end of the class, we'll visit a local raceway for an inside look at racing.

### **Auto Tech (Grades 7-10)**

**June 26, 27, 30 & July 1, 9:00 AM to 2:30 PM**

If you're an auto racing fan, this class is for you. You'll begin the week by creating a team with your classmates and participating in a pit row competition. You'll learn to operate a lift, operate tire machines, identify fluids, check and adjust air pressure and build a V/C Racer. At the end of the week, we'll visit a local raceway.

### **Culinary Arts: Sweet Indulgence! (Grades 7-10)**

**June 30-July 3, 9:00 AM to 2:00 PM**

Do you love the smell of fresh baked bread right out of the oven? If you think there is nothing better than an apple tart or gooey cupcake join us for the Culinary Arts Sweet Indulgence Summer Academy. You'll bake fresh bread, root beer float cupcakes and apple tarts, as well as mouth-watering doughnuts!

### **Digital Media Arts: Creative Ventures (Grades 7-10)**

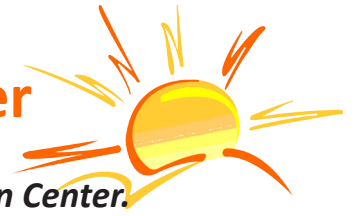
**June 30-July 3, 8:30 AM to 12:00 PM**

If you love art, this class is for you! You'll practice computer graphics (Adobe Photoshop), photography, video and vinyl graphics. You will create photo composites such as a "Hybrid/New Animal" using two different images, a vinyl transfer for a T-shirt, a photo cup, and put yourself into another world using a Green Screen effect.

# @GST BOCES Wildwood Education Center

1126 Bald Hill Road, Hornell

*Please note: There is no charge for courses at the Wildwood Education Center.*



## **Criminal Justice: REAL CSI (Grades 7-10)**

**June 30- July 3, 9:00 AM to 12:00 PM**

Explore the world of Crime Scene Investigation. Learn how to collect and analyze evidence to solve a mock crime scene and the science behind the evidence you collect. Activities include DNA extraction, fingerprinting, use of Blue Max light, ballistics, blood spatters, photography and more.

## **Culinary Arts: Introduction to Baking and Pastry (Grades 7-10)**

**July 7-11, 8:00 AM to 12:00 PM**

If you love to bake, join us for a week of yummy fun! We'll make quick breads, yeast breads, sweet breads and chocolate chip and cut out cookies. We'll also learn three different ways to frost cupcakes. Your parents can visit on the last day to see your tasty creations!

## **Culinary Arts: Food Preparation and Pricing (Grades 7-10)**

**June 30- July 3, 8:00 AM to 12:00 PM**

If you dream of owning your own restaurant one day, you need this course. Learn fundamental culinary arts skills, including safety, sanitation and operation of commercial kitchen equipment. Also, learn how to determine the cost of what you're cooking and how to determine menu prices – an important skill for a restaurateur!

## **Digital Media Arts: Video Animation Workshop (Grades 7-10)**

**June 30-July 3, 8:00 AM to 1:00 PM**

Attention young filmmakers! Learn principles of animation, filmmaking techniques and recording audio sound effects through a series of hands-on projects. Projects include building early animation devices, creating some fun videos that show filmmaking techniques, green screen projects and creating sound effects to put into a video.

## **Pit Crew Challenge/Build a Valve Cover Racer (Grades 7-10)**

**July 7-11, 8:00 AM to 12:00 PM**

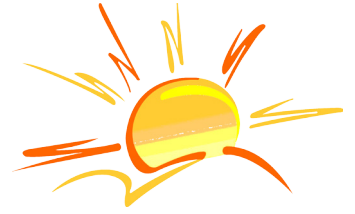
Attention racing fans: Spend a week learning hands-on lessons about cars. First, you'll build and race a valve cover racer. Then you'll learn and perform real pit crew activities. A trip to a local racetrack will wrap up the week.

To register for courses on any of the GST BOCES campuses, please download a registration form from our website: [www.gstboces.org](http://www.gstboces.org). Return the completed registration form to:

**Terri Walczak, GST BOCES Wildwood Education Center  
1126 Bald Hill Road, Hornell, NY 14843**

# @The National Soaring Museum

51 Soaring Hill Drive, Elmira



## Introduction to Summer Soaring (Ages 8-12)

**July 28-August 1, 8:00 AM to 12:00 PM, Cost: \$150**

Are you interested in flight? Come fly with us! Join us at the National Soaring Museum and soar above the valleys surrounding Harris Hill in a glider. During this week, campers will learn about the science and history of aviation through a variety of activities, including: building a model wing rib the Wright Brothers used in their 1911 glider, experimenting with the forces of flight and putting your design skills to the test using our 3-D printer. The week is capped off with a glider ride over Harris Hill, provided by a certified commercial pilot from the Harris Hill Soaring Corporation.

**To register, please call (607) 734-3128.**

# @Notre Dame High School

1400 Maple Avenue, Elmira

## Cake Camp (Grades 5-7)

**Instructor: Marion Cardwell-Ferrer**

**July 21- 25, 8:30 to 11:30 AM**

Participants will have the opportunity to learn from and work with a professionally-trained and nationally-renowned pastry chef. Marion Cardwell-Ferrer is the owner and proprietor of *sincredible pastries*, and specializes in high-end boutique-style cakes and pastries. Marion graduated from Johnson and Wales University with a degree in Baking and Pastry Arts. Her creations have appeared in publications such as *Bride's Magazine*. Marion is excited to share her love of baking with the area's youth through "Cake Camp." Students will learn not only how to bake, but also about "in-process" procedures, food cost analysis, party planning, presentation and recipe development. The camp will culminate with a reception for parents and family (up to four per family) to attend and taste their children's delicious creations.

**Cost: \$100 per participant**



## **Iron Chef (Grades 8-10)**

**Instructor: Marion-Cardewell-Ferrer**

**July 21- 25, 1 to 4 PM**

Participants will have the opportunity to learn from and work with a professionally-trained and nationally-renowned pastry chef. Marion Cardwell-Ferrer is the owner and proprietor of *sincredible pastries*, and specializes in high-end boutique-style cakes and pastries. Marion graduated from Johnson and Wales University with a degree in Baking and Pastry Arts. Her creations have appeared in publications such as *Bride's Magazine*. Marion is excited to share her love of baking with the area's youth through "Iron Chef" camp. Students will learn cooking processes and skills throughout the week, which will culminate on the last day as they demonstrate their learning through an Iron Chef challenge. Students will be divided into two teams before learning of the "secret ingredients" they must use to create a dish of their choice. The final dishes will be presented to a panel of judges. This camp will introduce students to the secrets of gourmet cooking while enhancing their abilities to collaborate to achieve a shared goal.

**Cost: \$100 per participant**

## **Mind Sports and Mathematics (Grades 5-8)**

**Instructor: Michael Sherman**

**June 30- July 3, 8:30 AM to 12:00 PM**

Students will explore binary number systems and other counting principles through engagement in a variety of mathematical games which encourage logical thinking while having fun in the process. Upon completion of the camp, students will be able to count to 31 on one hand, read a binary clock and challenge family and friends in a variety of mind sports.

**Cost: \$75 per participant**

## **Poetry and Song Writing (Grades 5-8)**

**Instructor: John Manfredi, Kevin O'Brian**

**August 18-22, 12:30 to 3 PM**

Participants, with the guidance of a creative writing teacher and a songwriter/musician, will write and record their own song(s). Students will gain an understanding of poetic concepts such as rhythm, meter and rhyme in the context of songwriting. Students will be required to consider audience as any good writer does and work to create an enticing hook for their piece. Students will then be guided through the use of digital recording equipment, which while allowing them to record their songs, will also expose them to ways to enhance production through integration of a variety of sound production tools and resources. The final product will be a CD recording of their song(s), along with those of their campmates.

**Cost: \$85 per participant**



## **Musical Theatre Intensive (Grades 7-9)**

**Instructor: Sarah Dennis**

**July 7-11, 8:30 AM to 12:00 PM**

This is an exciting program for young people to explore the wonderful world of musical theatre through games, exercises, song and movement. All ability levels are welcome. Upon completion of the summer intensive, students will feel comfortable with basic improvisation, different styles of musical theatre, choreography and music from all periods of Broadway. The camp will culminate with a performance for family and friends.

**Cost: \$75 per participant**

## **Collaborative Art: Ceramic Tree Mosaic (Grades 9-12)**

**Instructor: Korey Page**

**July 14-18 and July 21-23, 8:30 AM to 12:00 PM**

Students will hand build ceramic tiles. The tiles will be assembled to create a tree mosaic which will be immortalized through installation within the school. Students' creative expression will be enhanced through their deepened understanding of problem solving, the concepts of design and skill in measurement, as well as their potential to successfully collaborate on a shared project. Students will also create a smaller take away ceramic piece.

**Cost: \$75 per participant**

## **Music Camp (Grades 7-12)**

**Instructor: Stephen Gergley, Brian Murphy**

**Weekdays July 7-18, 8:30 AM to 12:00 PM**

Private and group lessons will be offered on all band instruments from beginner to advanced. Keyboard lessons on piano – xylophone and jazz improvisation class also are available. If registration permits, an ensemble performance will culminate the week.

**Fee: \$85 per week/per participant**

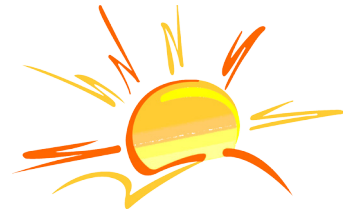
## **Forensics (Grades 7-10)**

**Instructor: Wesley Dibble**

**July 21-25, 12:30 to 3:00 PM**

Participants will learn how real-life investigators solve cases, with particular focus on the science behind the solution. This camp will take students through a case from evidence collection to trial as they learn the basics of fingerprinting, DNA analysis, police investigative techniques and more.

**Fee: \$75 per participant**



## Red Carpet Reporting

**Instructor:** Author and Journalist Tim O'Shei

**July 14-18**

**Session I (Grades 5-8), 8:30 AM - 12:00 PM**

**Session II (Grades 9-12), 12:30 to 3:00 PM**

Through the *Live! Starring ... You!* student media program, hundreds of kids and teens have interviewed professional athletes and entertainers, both on camera and off. LSY creator Tim O'Shei is bringing the program to you this summer with Red Carpet Reporting. You'll learn the same interviewing, writing and multimedia storytelling techniques used by LSY's teen reporters backstage and on the red carpet. You'll research sports and entertainment stories, conduct practice interviews, and even have the opportunity to be published on LSY's website, [LiveStarringYou.com](http://LiveStarringYou.com). Through real-life practice both on camera and off, this program develops students' research, writing and speaking skills in a way that's fun, energetic and gives them a chance to showcase their work on a high-visibility platform. They'll also utilize Tim O'Shei's latest two books, the goal-setting guide *Be the One!* and the teen pop star novel and CD, *Edge of the Spotlight*.

**Cost:** \$115 per week/per student

*Application forms and staff bios will be available on Notre Dame's website, [www.notredamehighschool.com](http://www.notredamehighschool.com).*

## Science & Discovery Center

**@Corning Community College**

***Please note: All Science & Discovery Center academies require a \$25 non-refundable registration fee that must be paid at time of registration.***

### Super Summer Science (Grades 1-3)

**June 30-July 3, 12:30 to 4:30 PM, Spencer Crest Nature Center**

Explore a new science topic each day: Nature Day, Messy Mixtures Day, Things That Move Day and Engineering Day!

### Science In Space (Grades 4-8)

**July 7-11, 8:30 AM to 12:30 PM, CCC Campus**

Launch rockets, create a model of a constellation and make planets orbit on a computer. Spend an afternoon at the CCC Planetarium and Observatory!

### Outdoor Biology Exploration (Grades 4-6)

**July 7-11, 12:30 to 4:30 PM, Spencer Crest Nature Center**

Spend the week at SCNC hiking and learning about plants, trees and small animals. Using microscopes, discover what lives and grows in the pond, plant a tree and take some nature photographs. Explore the ways nanotechnology is found in nature. Learn about Fibonacci numbers and explore the trail of numbers.



## **Indoor & Outdoor Adventures (Grades 7-9)**

**July 14-18, 12:30 to 4:30 PM, Spencer Crest Nature Center**

Participate in science that they don't do in school! Make and cook in your own solar oven and generate hydrogen. Discover the fun of geocaching. Build a geodesic dome and learn computer programming.

## **Inventions: Take Apart and Invent (Grades 4-8)**

**July 21-25, 8:30 AM to 12:30 PM, CCC Campus**

Put your imagination and creativity to work. We'll supply the old computers, machines and tools; you take them apart and invent something new.

## **Building Buildings (Grades 4-8)**

**July 28-August 1, 8:30 AM to 12:30 PM, CCC Campus**

Engineering week. Build bridges, domes and towers out of various materials. The sky's the limit!

## **@Elmira College**

***Please note: All Science & Discovery Center academies require a \$25 non-refundable registration fee that must be paid at time of registration.***

## **"Who Done It"? (Grades 5-8)**

**July 28-August 1, 8:30 AM to 12:30 PM, Elmira College Campus**

Each day you will use a different technique used by real forensic experts such as fingerprinting, examining DNA samples and how to find and identify trace evidence. On the last day you will use all of your skills to examine a mock crime scene and solve the mystery.

## **Super Summer Science (Grades 1-3)**

**August 4-8, 8:30 AM to 12:30 PM, Elmira College Campus**

Explore a new science topic each day: Nature Day, Messy Mixtures Day, Things That Move Day, Engineering Day and Water Day!

## **Animated Animation (Grades 4-8)**

**August 4-8, 8:30 AM to 12:30 PM, Elmira College Campus**

You will learn how to create stop-motion animation on a computer and then make your own movie that you can take home on a DVD!

## **Photography: Making Pictures With Light (Grades 5-8)**

**August 11-15, 8:30 AM to 12:30 PM, Elmira College Campus**

Learn how to develop old black and white photos. Take pictures with a pin-hole camera that you made. Use digital cameras and learn how to take interesting indoor and outdoor digital photos, then edit and manipulate them on a computer. Burn a DVD of your work to take home!



## **Inventions: Take Apart and Invent (Grades 4-8)**

**August 18-22, 8:30 AM to 12:30 PM, Elmira College Campus**

Put your imagination and creativity to work. We'll supply the old computers, machines, and tools; you take them apart and invent something new.

### **Registration:**

Registration forms and instructions are available are at [www.sdsciencecenter.org](http://www.sdsciencecenter.org)

## **Southern Tier SciFair Summer Program (Grades 5-8)**

**July 7- 31**

Choose an avatar and become part of a dynamic team designing and building a science exhibit in a virtual world. No prior computer experience is needed. Students in grades 5-8 from Addison, Bath, Campbell-Savona, and Elmira School Districts are eligible to participate. The program runs from July 7 – July 31, with a showcase event at the Wings of Eagles Discovery Center on July 31.

Contact your specific school main office for more information and to obtain a registration form for participation in the program.

## **@Tanglewood Nature Center & Museum**

**443 Coleman Avenue, Elmira**

### **Advanced Fishing**

***Campers must have completed grades 3-6***

**Regular enrollment: July 21-25**

**Mini camp: July 28-August 1**

For intermediate to experienced anglers – if you want to improve your technique and expand your fishing skill set, this is the camp for you. Learn more about fish and insect identification, freshwater ecology, how to make lures and tie flies, and protecting the water quality of our area. Get access to more ponds for more fishing diversity. We'll also tackle fish-related crafts and activities.

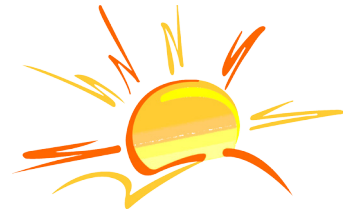
### **Big Yucky**

***Campers must have completed grades 3-5***

**Regular enrollment: August 4-8**

Explore the slimy side of science! We will identify scat and investigate mud, mucus and musk. We'll also discover some animals' self-defense strategies that are super effective (and super gross). Even our snacks will be "yucky". Be prepared to get your hands dirty during this week of hands-on nature exploration.





## Bug Hunters

*Campers must have completed grades K-2*

**Mini camp: July 21-25**

Are you fascinated by critters with six or eight legs? Spend a week learning about and catching some of the smallest, but most important animals on our planet! Campers will capture, identify and discover everything about all sorts of insects. Check out butterflies, dragonflies, cicadas and spittlebugs while gaining a deeper appreciation for our hard-shelled companions.

## Curator Camp

*Campers must have completed grades 3-6*

**Mini Camp: July 7-11**

Do you want to work with animals? Find out what it takes to care for Tanglewood's exhibits and our 40+ species of resident animals. In our hands-on program, campers will feed, care for and handle amphibians, reptiles, mammals and arthropods. Campers will learn about the habitats, diets and behaviors of our animals. Where did our exotic species come from? How can we protect and preserve our native species, indoors and out? We will also hike, observe animals in the wild and create projects that will enrich our animals' lives.

## Dinosaur Dig

*Campers must have completed grades K-2*

**Regular enrollment: July 14-18**

Take a trip back in time and discover what this land might have looked like millions of years ago. Hunt for Devonian era fossils, learn amazing dinosaur facts and meet some dinosaur descendants – living birds and reptiles. We will explore the ecology and geologic features of present day Tanglewood.

## Fishing

*Campers must have completed grades K-2*

**Regular enrollment: July 7-11 and August 18-22**

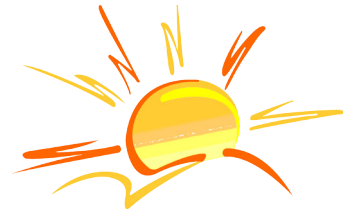
Every summer needs a good fish story! Whether you're just learning the ropes or polishing your skills, this fishing camp has something for everyone. Learn about fishing techniques, fish and insect identification, how to make lures, select bait, make fish prints and more! Fishing camp is stuffed to the gills with great experiences.

## Junior Curator Camp

*Campers must have completed grades K-2*

**Regular enrollment: August 25-29**

Get up close and personal with Tanglewood's animals! Each day will feature a different animal group and include a live animal program. Campers will learn about animal behavior, habitats and favorite foods. Junior curators will also make animal-related arts and crafts projects, hike and observe animals in their natural environment.



## Little Yucky

*Campers must have completed grades K-2*

**Mini Camp: August 4-8**

Explore the muddy, slimy, oozy, gooey side of science. Investigate slimy slugs and creepy crawly insects. Make your own slime and learn about what lives in the “muck” at the bottom of the pond. Even our snacks will be “yucky”. Be prepared to get your hands dirty during this week of hands-on nature exploration!

## Raptor Camp

*Campers must have completed grades 3-6*

**Mini Camp: August 25-29**

Spend a week with our hawks, owls and falcon, learning all about the lives of these fascinating carnivores. We will spend time bird-watching on our 250+ acre property, including a hike to the bluffs to search for red-tails and turkey vultures. We will dissect owl pellets and delve into bird anatomy, physiology and behavior. Every day you will help feed and care for our resident raptors.

## Summer Sampler

*Campers must have completed grades K-5*

**Regular enrollment: June 30-July 3**

The short holiday week gives us an opportunity to kick off the summer with a sampler of what’s to come. Sign up for just one day or all four. Themes are: Monday-Bug Hunters, Tuesday-Fishing, Wednesday-Dino Dig and Thursday-Camp Yucky!

## Wilderness Survival Camp

*Campers must have completed grades 3-6*

**Mini Camp: August 11-15**

Could you survive in the wild? Learn and practice basic skills including using a map and compass, tying knots, constructing shelter, making fire and practicing personal safety in the wilderness. Campers will also learn how to identify edible plants, find safe drinking water and track and identify wildlife.

## Woodland Fairies & Sprites

*Campers must have completed grades K-2*

**Regular Enrollment: July 28-August 1**

Explore the forest, meadows and ponds in search of birds, mammals, insects, fish, and, of course, fairies! Build fairy houses with natural materials, and make art projects with no shortage of glitter. Fairy and sprite camp brings together the best of imaginative and outdoor play. We will finish on Friday with a fairy and sprite tea party where campers and their guests enjoy tea, lemonade and goodies while celebrating our week of outdoor fun and exploration!



### **What is a mini camp?**

Tanglewood's regular programs welcome up to 24 children in the group. Mini camps are limited to 12 spots – if your child thrives in a smaller group setting, go mini!

### **Pricing:**

#### **Week of July 4**

There is no camp on July 4.

\$120 Mon-Thur – 10 AM to 3 PM

\$160 Mon-Thur – 9 AM to 4 PM

#### **Fishing Camps**

\$155 per week – 10 AM to 3 PM

\$205 per week – 9 AM to 4 PM

#### **All Other Camps**

\$150 per week – 10 AM to 3 PM

\$200 per week – 9 AM to 4 PM

### **Registration:**

Registration is on a first-come, first-served basis. Registrations can be done online only at [www.tanglewoodnaturecenter.com](http://www.tanglewoodnaturecenter.com). For more information, contact Deanna at (607) 732-6060 ext. 100.

## **@Wings of Eagles Discovery Center**

**339 Daniel Zenker Drive, Big Flats**

**Please note: All Wings of Eagles Discovery Center courses are \$40 per child. A limited number of scholarships are available for children who qualify. Please call 607-738-3054 for more information.**

### **Wings and Things (Grades 1-2)**

**August 4-8, 1:00 to 3:30 PM**

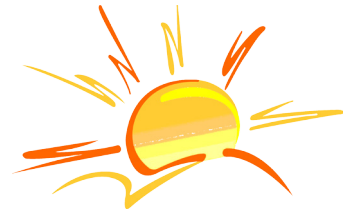
Learn how to make your own bird feeder and enjoy other hands-on activities including a visit with our friends from Tanglewood Nature Center, who will bring a different live animal each day!

### **Little Engineers in Training (Grades 1-2)**

**July 7-11, 9:00 to 11:30 AM or**

**August 11-15, 1:00 to 3:30 PM (Program same for both sessions)**

Are you curious about how things work? You can use your own imagination and creativity during this week using LEGO's Simple Machines and other hands-on activities. Come explore with us!



## **Marvelous Machines (Grades 3-4)**

**July 21-25, 1:00 to 3:30 PM or**

**July 28-Aug 1, 1:00 to 3:30 PM (Program same for both sessions)**

Did you know that you were born an engineer? Do you like to build things, take them apart and figure out how they work? This program gives you a chance to design, create and improve the things that you engineer. This program is designed by the Boston Museum of Science and includes many hands-on experiments and activities. Such fun!

## **Fun With Science (Grades 4-8)**

**July 21-25, 9:00 to 11:30 AM or**

**August 4-8, 9 to 11:30 AM (Program same for both sessions)**

Household products are curiously inspiring: With a splash of food coloring and a teaspoon each of liquid starch and glue, we can concoct an elastic, slimy glob technically known as a “non-Newtonian fluid.” Plus if you have Jello laying around the house, we have an experiment for you!

## **RCX Robotics (Grades 4-6)**

**July 28-August 1, 1 to 3:30 PM or**

**August 11-15, 1 to 3:30 PM (program same for both sessions)**

RCX Robotics are an earlier generation of the NXT Mindstorm Robotics. RCX is a team activity designed to strengthen your student’s teamwork skills, communication skills, computer programming and problem solving skills. Your robot can use simple math commands to achieve these tasks. Failure is actually encouraged in RCX. Remember, if Thomas Edison had not failed thousands of times, we wouldn’t have the light bulb today. Therefore, as your experiments fail, you are actually learning and one day will succeed.

## **Aviation (Grades 5-8)**

**July 28-August 1, 9:00 to 11:30 AM**

Hop into the pilot seat and learn the basics of aviation; take the controls and get ready to learn the basics behind flight. We will build airplanes and learn using actual flight simulators. This non-stop action is great for students who love video games and science.

## **NXT Mindstorm Robotics (Grades 5-8)**

**July 7- 11, 1:00 to 3:30 PM**

**July 21-25, 9:00 to 11:30 AM**

**July 28- August 1, 9:00 to 11:30 AM (This is an advanced class – MUST have completed a program either at Wings of Eagles or in your school)**

Do you love the Disney/Pixar movie WALL·E? Do you like to build things using LEGOs? Have you ever thought about programming your own robot? If you answer yes to these questions our LEGO Robotics course is for you! This introductory course introduces students to the basics of NXT LEGO Robotics. Students will work in teams to design, build and program their own robots. Students will be involved with programming their robots through several challenges.

## **Rocketry (Grades 5-8)**

**August 11-15, 9:00 to 11:30 AM**

Rockets are the oldest form of self-contained vehicles in existence. Early rockets were in use more than two thousand years ago. Over a long and exciting history, rockets have evolved from simple tubes filled with black powder into mighty vehicles capable of launching a spacecraft out into the galaxy. Few experiences can compare with the excitement and thrill of watching a rocket-powered vehicle, such as the Space Shuttle, thunder into space. Dreams of rocket flight to distant worlds fire the imagination of both children and adults. Come to Wings of Eagles and learn the science behind rockets. Be ready to build and fly your very own rocket.

## **SEED (Schlumberger Excellence in Educational Development) (Grades 5-8)**

**July 14-18, 9 to 11:30 AM**

Wings of Eagles is one of 84 partner schools around the world that can provide activities that help students learn about math and science in a fun and enlightening way by utilizing the SEED resources. Did you ever think about building a battery using a lemon? Or use a water testing kit to check local bodies of water for some fundamental characteristics of quality? How about using baby oil or shampoo to explore the viscosity of different liquids and how the viscosity varies with temperature? Experience lots of hands-on activities during this fun filled week.

## **E-Missions & Active Worlds (Grades 5-8)**

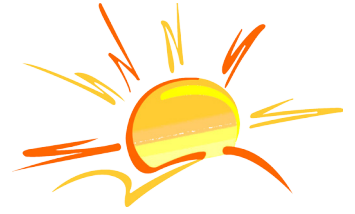
**August 4-8, 1:00 to 3:30 PM**

Do you like to play RPG video games? Have you ever wanted to build your own 3-Dimensional world inside a computer? Would you like to help save the astronauts trapped in space on the International Space Station? Then this program is for you! Students work together in teams to build a computer model of their ideal space station and their own avatar. Then through distance learning video equipment, students will have a chance to experience an e-Mission simulation where they will work together to solve problems aboard the International Space Station when there is a solar flare and the hatch can't be opened to allow the exchange of the astronaut crews.

## **Underwater Robotics (Grades 7-9)**

**July 14-18, 1:00 to 3:30 PM**

Do you like to build robots? Have you ever seen an ROV (Remotely Operated Vehicle)? Learn how to build an ROV and then see how it works underwater. ROVs are usually used for ocean exploration and research, as well as being used by the gas industry for oil and gas drilling and support. ROVs are unoccupied vehicles that can explore a variety of locations in the water and are piloted by someone on shore or on a boat. Some are even used for crime scene investigation and homeland security.



## **Vex Robotics (Grades 7-12)**

**July 14-18, 9:00 to 11:30 AM**

Do you like to build things that move? Are you fascinated by the Mars Rovers? Have you ever thought about programming your own robot? Students will learn to use Intellitek EasyC and Boot Camp software and will work together using robotics content to strengthen their creative and problem solving skills. These robots are made of metal and definitely are the wave of the future. No prior knowledge necessary.

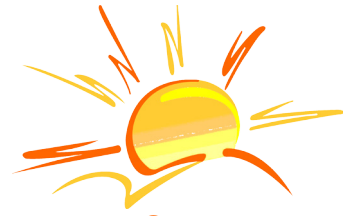
## **Cyber Surgeons (e-mission) (Grades 7-12)**

**July 7-11, 9:00 to 11:30 AM**

Are you interested in medicine and wonder what it would be like to be on a medical supply ship in the Amazon? The simulated ship is equipped with a high-tech hospital and medical research capabilities, state-of-the-art high-end communications systems, and dedicated satellites to relay information. Students receive alerts about patients from research stations located in ports along the way and will diagnose various maladies and recommend treatment. Prior to the actual distance learning mission, you will learn about the medical technology and how to use the data to diagnose and suggest treatment for the patients.

**To register for courses at the Wings of Eagles, please go to [www.wingsofeagles.com](http://www.wingsofeagles.com).**

# Summer of Innovation 2014 Calendar



S M T W TH F SA

## June 2014

22	23	24	25	26	27	28
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## July 2014

June 29	30	July 1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	August 1	2

## August 2014

3	4	5	6	7	8	9
10	11	12	13	14	15	16

