

Summer Science Camps for K-12th Grade Students

Summer Science Camps offered by the University of Maryland College of Computer, Mathematical, and Natural Sciences. The summer camps are tailored for K-12th grade students and will introduce them to disciplines such as entomology, physics, computer science, biomedical science and more.

Bug Camp: Insects, Science & Society: For Kids 7-12 Years Old

Session 1: June 25-June 29, 2018

Session 2: July 9-July 13, 2018

Insects are the most abundant animals on Earth. Not only are these creepy-crawlies everywhere, they provide many necessary benefits to humans and society. Through a variety of hands-on activities and interactive field trips, Bug Camp will teach kids how amazing and valuable bugs truly are. Campers will gain experience with science in the field and the lab and will come away with an understanding of the important relationship between humans and insects. Registration opened January 15, 2018.

For more information, visit <http://entomology.umd.edu/insect-camp.html>

The Amazing Science Discovery Camp: For Rising 3rd, 4th and 5th Graders

July 16-July 20, 2018

The Amazing Science Discovery Camp is a one-week summer camp for students with an interest in exploring the physical world. Each camp day is filled with exciting experiments, interesting lessons, educational demonstrations and much more. Camp activities engage students in developing curiosity, building knowledge and increasing their appreciation of science, technology, engineering and mathematics (STEM) fields in their daily lives and future careers. Registration opens February 1, 2018.

For more information, visit <http://umdphysics.umd.edu/events/aboutus-outreach/science-discovery-camp.html>

Computer Science Connect (CompSciConnect): For Rising 6th, 7th and 8th Graders

Session 1: Yellow & Terp: June 18-June 29, 2018

Session 2: Red & Yellow: July 16-July 27, 2018

Session 3: Red & Terp: July 30-August 10, 2018

CompSciConnect is a three-year summer camp (Yellow, Red and Terp groups) that typically begins with rising 6th graders joining the Yellow group. Each summer, students learn more advanced skills and also meet once a month throughout the school year to maintain those skills. Through the three years, students explore block programming with scratch and Lego robots (Yellow); web programming with HTML, CSS and JavaScript (Red); and Python and Unity 3D programming (Terp), along with cybersecurity/safety, cryptology, number bases, logic and computer use skills. Through the three years, we emphasize how these skills connect to other areas of study and to making the world a better place. Registration opens January 30, 2018.

For more information, visit <http://mcwic.cs.umd.edu/csc>

Physics of Quidditch Summer Camp: For Rising 6th, 7th, 8th and 9th Graders

Session 1: July 9-July 13, 2018

Session 2: July 23-July 27, 2018

This innovative program combines physics, sport and literature of the Harry Potter novels. Throughout the week spent immersed in fun and physical activities, participants gain skills in physics, critical thinking, teamwork, playing the sport of quidditch and an appreciation for the literature that inspired the sport. Daily activities include lab experiments in the context of the sport, introduction to applicable physics concepts in mechanics, drills that apply the concepts

of the sport and quidditch scrimmages. Participants separate into two “houses” for the final tournament, which consists of a luncheon for participants and parents, a student poster session and the championship game between the two houses. Registration opens February 1, 2018.

For more information, visit <http://umdp.physics.umd.edu/events/aboutus-outreach/outreach-physics-quidditch.html>

Terp Discovery Program: For Rising 7th and 8th Graders

July 15-27, 2018

Terp Discovery Scholars take a UMD course designed to introduce them to an academic field. In the afternoons, scholars participate in field trips, campus tours and social activities. They can live on campus or commute from home. The College of Computer, Mathematical, and Natural Sciences will be offering two courses during summer 2018:

- Biological Sciences Program: Forensic Science
- Biological Sciences Program: Modern Medicine

Applications open February 20, 2018. Applications close July 1, 2018.

For more information, visit <https://oes.umd.edu/middle-high-school-students/terp-discovery>

CyberSTEM Camp: For Rising 7th and 8th Grade Girls

July 16-July 20, 2018

This five-day experience provides hands-on activities focused on science, technology, engineering and mathematics (STEM) and cybersecurity topics. Attendees will learn and apply basic concepts of programming, forensics, cryptography and program management from a series of gaming, modeling and simulation activities, which explore the interconnections of science, math, technology and computers. Registration opens January 30, 2018.

For more information, visit <https://mcwic.cs.umd.edu/cyber>

Physics Summer Girls: For Rising 9th Graders

July 23-July 27, 2018

Morning activities include demonstrations, hands-on laboratory experiments and documenting progress in journals. Afternoons are devoted to an ongoing two-week project that teaches participants trial and error and the principles of the scientific method. At the end of the two-week program, parents, teachers and siblings are invited to a closing ceremony where Summer Girls present their favorite demonstrations. Registration is open.

For more information, visit <http://umdp.physics.umd.edu/events/aboutus-outreach/summer-girls.html>

Intermediate CyberSTEM Camp: For Rising 9th and 10th Grade Girls

July 23-July 27, 2018

This five-day experience provides hands-on activities focused on science, technology, engineering and mathematics (STEM) and cybersecurity topics. Attendees will learn and apply basic concepts of programming, computer forensics, cryptography, steganography, system vulnerabilities and program management from a series of gaming, modeling and simulation activities and hands-on exercises, which explore the interconnections of science, math, technology and computers. This camp covers similar content areas as the CyberSTEM Camp for rising 7th and 8th graders but allows for a deeper and more in-depth exploration of the subject matter. Participants do NOT need to attend the middle school camp to be eligible. Registration opens January 30, 2018.

For more information, visit <https://mcwic.cs.umd.edu/cyber>

Girls Talk Math: For Rising 9th, 10th, 11th and 12th Graders

July 9-July 20, 2018

Girls Talk Math is a two-week summer day camp hosted by the Department of Mathematics. Students who attend high school within driving distance of the University of Maryland can

apply. Camp activities involve learning mathematics outside of the standard curriculum, attending minilectures on mathematics, as well as recording and publishing a podcast about a famous female mathematician. Registration opened February 8, 2018. For more information, visit <http://gtm.math.umd.edu>

Young Scholars Program: For Rising 9th, 10th, 11th and 12th Graders
July 8-27, 2018

Young Scholars take one three-credit UMD introductory course and can live on campus or commute from home. For three weeks, young scholars will attend class, enjoy field trips or guest speakers, study, work on projects and prepare for exams. They will also participate in seminars, workshops and social activities where they will meet and study with other talented high school students from around the U.S. and the world in many of the same world-class facilities used by UMD's full-time college students. The College of Computer, Mathematical, and Natural Sciences will be offering two courses during summer 2018:

- Biological Sciences Program: Environmental Biology
- Computer Science: Computer Programming

Applications open February 20, 2018. Applications close July 1, 2018.

For more information, visit <https://oes.umd.edu/middle-high-school-students/terp-young-scholars>

Physics Summer Girls - Advanced: For Rising 10th, 11th and 12th Graders
July 30-August 10, 2018

While the rising 9th grader program focuses on classical physics, the advanced program jumps into the world of modern physics. Participants will learn about topics ranging from relativity to antimatter, quantum mechanics, physical uncertainty, quantum computing and more. The afternoons will be filled with hands-on lab activities, visits to cutting-edge research labs, discussions with professors who conduct modern physics research and a project to make the discussions of modern topics tangible. Students will be introduced to topics that they will likely not be offered in their high school classes, from the thought experiments of Einstein to current applications in code breaking. Registration is open.

For more information, visit <http://umdphysics.umd.edu/events/aboutus-outreach/summer-girls.html>

Cyber Defense Training Camp: For Rising 11th and 12th Graders
July 8-July 14, 2018

Cyber Defense Training Camp is an intermediate level (some technical experience is required) seven-day residential summer program for male and female students. Students will have the opportunity to expand their knowledge of cybersecurity and gain practical skills through instruction from an experienced security professional while living on the UMD campus.

Students learn about career options in the field, take at least one field trip and hear from a variety of speakers to learn more about how to prepare to enter this exciting profession.

Registration opened January 16, 2018.

For more information, visit <https://mcwic.cs.umd.edu/cyber>

Jump Start Biomedical Science Program: For Rising 11th and 12th Graders
July 16-27, 2018

The Jump Start Program will invite 50 students to participate in a weeklong summer science immersion program. Students considering a career in the sciences will have the opportunity to learn the tools of modern life sciences research and experience the excitement of discovery. In addition to carrying out laboratory investigations, students will participate in seminars and professional development workshops. This program was developed through a grant from the Howard Hughes Medical Institute and is now sponsored by the College of Computer, Mathematical, and Natural Sciences. Applications opened December 15, 2017. Applications close March 15, 2018.

For more information, visit <http://hhmi.umd.edu/jumpstart/>