

Explorathon 2020: A STEM Event

Expanding Horizons for Girls in Science, Technology, Engineering, and Mathematics

A joint project of the American Association of University Women – Birmingham Branch, Ford Motor Company Fund, Cranbrook Institute of Science, Cranbrook Schools, and Detroit Public Television.

Wednesday, March 18, 2020

7:45 a.m. – 1:00 p.m.

Location: Cranbrook Kingswood Middle School for Girls

Purpose

To provide students with interactive and hands-on workshop sessions featuring dynamic women scientists, engineers, mathematicians, and health care specialists; and to showcase opportunities for women in STEM (science, technology, engineering, and mathematics) careers.

Workshop Sessions

Interactive workshops will be presented to small groups of students in grades **8 through 12**. Each student will participate in three workshop sessions. While students are participating in workshops, adults **must** attend concurrent interactive sessions designed especially for them.

Registration

Attendance is limited to 400 participants in grades **8 through 12**. Reservations are accepted on a first-come, first-served basis. Registrations will be processed when completed forms and full fee payment are received (only the first 100 8th graders will be accepted). No faxed registrations will be accepted. Individual student registrations are welcome; those students need not be accompanied by an adult. Group reservations from a single school will be limited to no more than 25 students and two adults.

Deadline for Registrations: All supported students (scholarships or bus subsidies) Wednesday, February 12.

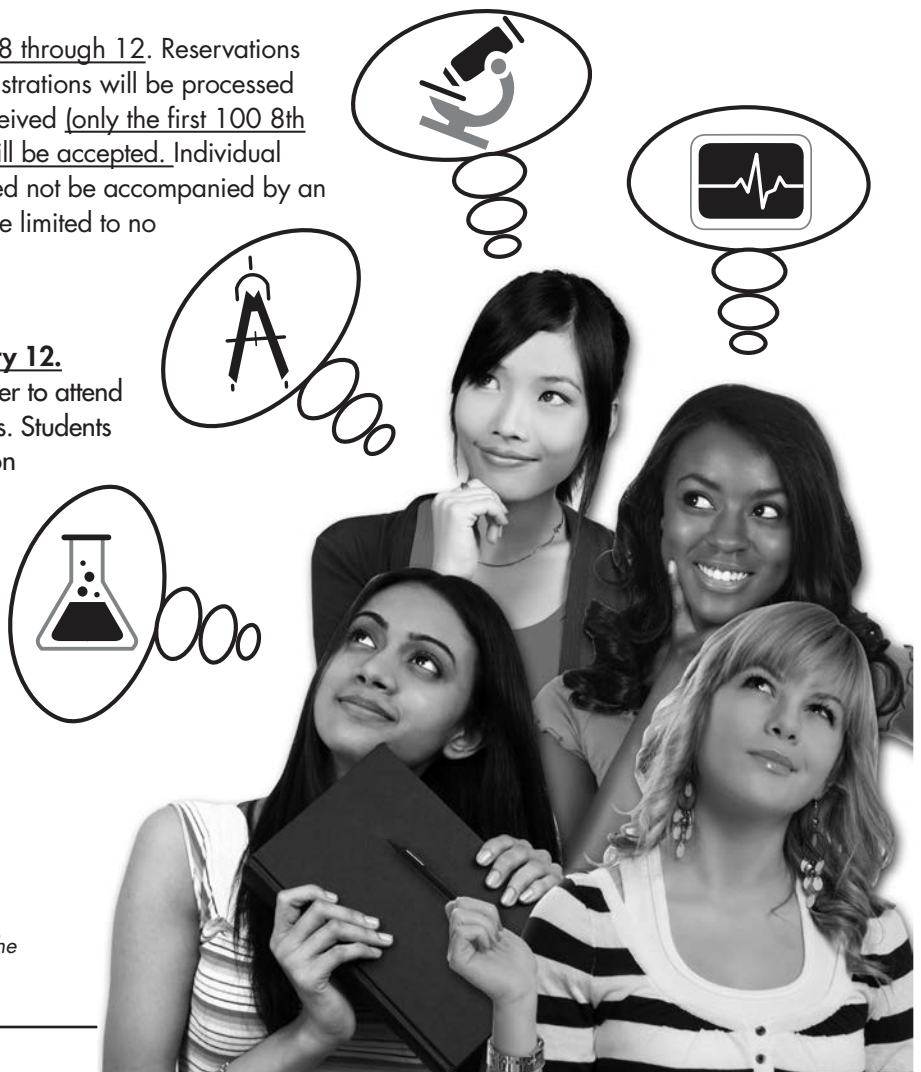
All others Friday, February 28, 2020. NOTE: In order to attend Explorathon, students must attend all three workshops. Students will be dismissed at 1:00 p.m. If your paid registration arrives after the program is filled, you will be contacted by phone and provided with a full refund.

CONFIRMATIONS WILL BE SENT ELECTRONICALLY

Fee

\$15 PER PERSON: student, aide, parent, or teacher (includes lunch). Scholarships or bus subsidies are available. For further information and application forms go to <http://birmingham-mi.aauw.net>. For additional questions contact Sue Longstreet (Phone: 248-332-2284; email: longstreet.sue@gmail.com).

You may copy this brochure and print registration forms from the website: <http://birmingham-mi.aauw.net/>



Workshops

Please choose six workshops and list their letter and number in order of preference on the registration form that you return. You will be assigned to three sessions. If sessions are full, it may be necessary for us to make some substitutions.

A. ANIMAL CARE AND ENVIRONMENTAL STUDIES

- A-1 Science, Law, and the Environment: Environmental Law
Do you care about the environment? Join our interactive workshop where you get to be the environmental lawyer.
- A-2 Walk on the Wild Side: Exotic Veterinary Medicine
Get a feel for what it's like to be a veterinarian who cares for exotic pets.
- A-3 Protecting Our Lakes From Vampire Fish
Find out how it is possible for scientists to manage invasive species in the Great Lakes in a cost-effective and environmentally friendly manner.

B. ANTHROPOLOGY

- B-4 Forensic Anthropology: What Bones Can Tell Us
Brains and the skulls that house them give us clues to medical mysteries. Examine them yourself.

C. CHEMISTRY

- C-5 The Chemistry of Pharmaceutical Drug Design
You could be the one to discover a medical cure! Let's talk about the processes used to discover and develop new drugs.
- C-6 Chemistry and Designing with Plastics (Latex used in this class)
In this hands-on lab experience you can delve into the science and engineering of plastics. Learn how plastics and their real world applications can make your life easier.

D. COMPUTERS

- D-7 Using Computer Science to Make Games

E. ENGINEERING AND PHYSICAL SCIENCE

- E-8 Can You Hear Me Now?
Sound and Vibration
Is it possible to hear vibration, see sound, or feel music? Come see how these phenomena impact our everyday life in ways you may not have imagined and how they can be measured.
- E-9 Physics Helps Solve Medical Mysteries
We will look at how your brain processes information and discuss a day in the life of a medical scientist. Is biomedical physics in your future? We will investigate the physics of nerve impulses in the body and test your reaction times.
- E-10 What is Engineering?
An Automotive Engineer's Perspective
Come meet three female engineers working on green vehicles: hybrid, plug-in, electric, and fuel cell. We bring the cars! You can work in any field anywhere in the world!
- E-11 Detectives and Problem Solvers of Technology
Motorcycles! Trucks! Luxury cars! Women can design them, develop them, manufacture them, and test them!
- E-12 Enzymes: Proteins in Action
Participants will learn about the subject of biochemistry with a focus on proteins and enzymes. This workshop includes two hands-on stations where participants will be able to see enzymes in action.

Workshops continued

F. HEALTH CARE

- F-13 A Day in the Life of a Doctor
- F-14 My Mom Has Breast Cancer
What About Me?
Discussions in Genetic Counseling.
What if you or a close relative found out that you had a genetic condition that increased your chances of having a major health condition, like breast cancer, heart disease, or a disability? Would you want to know if you were at risk? Learn more about genetic counselors, healthcare providers who help people decide whether to look into their genetic crystal ball to see their future.
- F-15 Physical Therapy:
Restore and Rehabilitate Your Body
Physical therapy can take away your pain. You may volunteer to assist us as we demonstrate using manual therapy, kinesiotaping, functional dry needling, exercise, and more.
- F-16 A Day in the Life of a Physician's Assistant
- F-17 Optometry: It's More Than Meets the Eye
An in-depth look at the field of optometry and how being an eye doctor is more than just prescribing eyeglasses. Discover how optometrists are using new technology to treat and manage eye diseases, design custom contact lenses, and perform vision therapy.

- F-18 Our Grandparents are Precious
Caring for our parents, grandparents, the elderly, or the infirm, might be the most rewarding career you could have.

G. MATHEMATICS

- G-19 You're Covered! Insuring Your Future
Do you drive? You have insurance. Insurance is necessary for your home, health, and life. Everyone needs it! Could a career in insurance be lucrative? Join us and find out.
- G-20 Financial Planning
Women between the ages of 20-24 are effectively narrowing the wage gap. With new wealth, women are advised to be able to manage their money. Let's talk about careers in wealth management-yours and others.

H. ART AND TECHNOLOGY

- H-21 Women Artists are Amplifiers
Artists take on many roles in society, as they lead, follow, uplift, or provoke us with their work. In this workshop, we will examine how women artists, across many disciplines, have worked to amplify powerful ideas through their artistic practices, challenging society to critically reflect and shift. Each workshop participant will also contribute a message they want to amplify to a collective art piece created during this event

Location

Cranbrook Kingswood Middle School for Girls – Go to the Cranbrook entrance at 39221 Woodward Avenue, Bloomfield Hills, Michigan 48303-0801 (between Quarton/Big Beaver Rd. and W. Long Lake Rd.). See parking and drop-off instructions on enclosed map or check our website.

Schedule - March 18, 2022

7:45 a.m. – 8:20 a.m.	Registration	11:10 a.m. – 12:00 p.m.	Workshop II or Lunch B
8:25 a.m. – 9:10 a.m.	Welcome and Keynote	12:05 p.m. – 12:55 p.m.	Workshop III
9:20 a.m. – 10:10 a.m.	Workshop I	1:00 p.m.	Dismissal
10:15 a.m. – 11:05 a.m.	Workshop II or Lunch A		

Registration (Please print legibly) _____

Explorathon - Wednesday, March 18, 2020

Deadline to register is February 12, 2020 (scholarship or subsidized) or February 28, 2020 (all others). Attendance is limited to 400 participants in grades **8 through 12**. Reservations are accepted on a first-come, first-served basis (only the first 100 8th graders will be accepted). You may copy this form on 8-1/2 by 11 inch paper. One registrant per form. Please print clearly all information, detach this section and mail with your payment. A student registering as an individual, rather than with a school, need not be accompanied by an adult. Please check our website (birmingham-mi.aauw.net) for parking and drop-off instructions.

Student Registration

Last name _____ First name _____

Address _____

City _____ State _____ Zip _____

Phone (_____) _____ School _____ Grade _____

Do you wish a vegetarian lunch? (Circle One) **YES NO** [NOTE: Must be pre-ordered.]

Have you attended Explorathon before? (Circle One) **YES NO**

Students: List below your workshop selections by **letter and number** in order of preference. (You will be assigned to three workshop sessions. If sessions are full, it may be necessary for us to make some substitutions.) **Please select from at least two areas.**

1. # _____ 4. # _____

2. # _____ 5. # _____

3. # _____ 6. # _____

Optional: "I hereby consent and authorize Explorathon permission to photograph my child for media sources including newspaper, television, and brochures in connection with the activities in Explorathon."

Parent/Guardian signature _____

Adult Registration

Last name _____ First name _____

Address _____

City _____ State _____ Zip _____

E-mail address _____

Phone (_____) _____ Circle one: **Parent Teacher Aide**

School _____ School District _____

Transportation: (Circle) **School Bus School Van Car Pool**

Do you wish a vegetarian lunch? (Circle One) **YES NO** [NOTE: Must be pre-ordered.]

All Participants

Please enclose a check for \$15 per person (adults as well as students), payable to AAUW Birmingham Branch Foundation, Inc., and send to Sue Longstreet, 2761 Bridle Rd., Bloomfield Hills, MI 48304. Phone: 248-332-2284.

Note: Your check is your receipt. No refunds will be granted unless the program is full.

<http://birmingham-mi.aauw.net/>