



Accotink Bay District Merit Badge Jamboree Two Day

Class Catalog

Event Contacts

Name	Title	Phone	Email
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Class Catalog

Accotink Bay District Merit Badge Jamboree Two Day Event: STEM Exploration Day at Aldersgate UMC



CMB173 Artificial Intelligence (AI) (2025 version)

The Artificial Intelligence (AI) Merit Badge introduces Scouts to the fundamentals of AI and automation through hands-on activities and real-world examples. Scouts learn key terms, explore how AI and automation are used in daily life, school, and work, and examine ethical concerns like bias and privacy. They also investigate deepfakes, practice communicating effectively with AI, and apply their knowledge through a project or teaching activity. Finally, Scouts explore career paths in AI by researching or interviewing professionals in the field.

9:30-12 PM

Instructor: Amber Siegel

Maximum number of participants: 12

Sessions: STEM Exploration Day

1-3:30 PM

Instructor: Alicia Fernandes

Maximum number of participants: 12

Sessions: STEM Exploration Day

Prerequisites: ** Read the merit badge pamphlet in its entirety **

<https://www.scouting.org/merit-badges/artificial-intelligence/>

Requirement 1: Key Concepts. Define the following terms and share the meaning of each with your counselor: artificial intelligence (AI), artificial intelligence agents, automation, basic programming, bots, data, databases, digital workers, general AI, machine learning (ML), narrow AI, superintelligent AI, tasks, triggers, workflows, and variables.

Scouts will bring their definitions of these terms to class and should be prepared to discuss them.

Requirements 2a–c: Artificial Intelligence (AI) Basics. Do the following and share what you learned with your counselor:

- (a) Identify 10 examples of how AI is currently used in everyday life.
- (b) Identify five examples of how AI is currently used in the workplace.
- (c) Identify five examples of how AI can be used at school or in support of your education.

Requirement 2e: (e) Create a timeline with five key milestones in the development of artificial intelligence.

Requirements 3a–c: Automation Basics. Do the following and share what you learned with your counselor:

- (a) Identify 10 examples of how automation is currently used in everyday life.
- (b) Identify five examples of how automation is currently used in the workplace.
- (c) Identify five examples of how automation can be used at school or in support of your education.

Requirement 3e: (e) Create a timeline with five significant milestones in automation development.

Requirement 7: Practical Application. Do option (a) OR option (b).

Scouts will submit this requirement by 6 pm January 24.

Submission location will be provided after registration.

Requirement 8: Career Exploration. Do option (a) OR option (b).

Scouts will submit this requirement by 6 pm January 24.

Submission location will be provided after registration.

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CMB176 Competitive Gaming (2026 version)

The Competitive Gaming merit badge introduces Scouts to one of the fastest-growing industries in the world—esports and modern gaming—while reinforcing the values of the Scout Oath and Scout Law in digital spaces. This badge blends fun, education, personal growth, and real-world career exploration, empowering Scouts to become responsible digital citizens and informed participants in today's gaming culture.

9:30-12 PM **Instructor:** David Weand
Maximum number of participants: 12
Sessions: STEM Exploration Day

1-3:30 PM **Instructor:** David Weand
Maximum number of participants: 12
Sessions: STEM Exploration Day
Prerequisites: ** Read the merit badge pamphlet in its entirety **
<https://www.scouting.org/merit-badges/competitive-gaming/>

Work through the entire Digital Resource Guide (<https://www.scouting.org/skills/merit-badges/digital-resource-guides/competitive-gaming/>) then complete the following:

Requirements: 1, 2, 3, 4, 5, 6, and 7

Note: Requirement 3 requires 3-4 weeks to complete.

Tip: Review information at <https://mason360.gmu.edu/gmuesports/home/> and <https://playvs.com/locations/virginia/> as local eSports affiliated with schools.



CMB165 Cybersecurity (2025 version)

The Cybersecurity Merit Badge equips Scouts with essential knowledge and skills to navigate and protect the digital world. Scouts learn about online safety, ethical behavior, cyber threats, and how to defend against them using tools like firewalls, antivirus software, and strong passwords. They explore encryption, connected devices, and the risks of public Wi-Fi, while also practicing safe habits like updating software and backing up data. Through hands-on activities, Scouts investigate real-world cyber incidents, participate in cybersecurity challenges, and explore career opportunities in the field.

9:30-12 PM **Room:** 132 Library **Instructor:** Lance Ware, Sr.
Maximum number of participants: 12
Sessions: STEM Exploration Day

1-3:30 PM **Room:** 132 Library **Instructor:** Lance Ware, Sr.
Maximum number of participants: 13
Sessions: STEM Exploration Day
Prerequisites: Read the Merit Badge Book.
Watch all videos: <https://www.scouting.org/merit-badges/cybersecurity/>
Complete Requirements 1a, 4b, 4e, 5c, 6c, 8, and 9.



CMB107 Digital Technology

Technology has come a long way since Computers merit badge was first introduced in 1967. This badge will teach Scouts about technology in the digital age.

9:30-12 PM **Instructor:** Brian Harte
Maximum number of participants: 12
Sessions: STEM Exploration Day

1-3:30 PM **Instructor:** Brian Harte
Maximum number of participants: 12
Sessions: STEM Exploration Day
Prerequisites: ** Read the merit badge pamphlet in its entirety **
<https://www.scouting.org/merit-badges/digital-technology/>

Requirements 1, 5, 6, and 9a OR 9b.

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CMB175 Engineering (2024 version)

Engineers use both science and technology to turn ideas into reality, devising all sorts of things, ranging from a tiny, low-cost battery for your cell phone to a gigantic dam across the mighty Yangtze River in China.

1-3:30 PM

Instructor: Anand Iyer

Maximum number of participants: 12

Sessions: STEM Exploration Day

Prerequisites: ** Read the merit badge pamphlet in its entirety **

<https://www.scouting.org/merit-badges/engineering/>

Requirements: 1, 2, 4, 5, 6, and 9.

Use Resources available on <https://www.scouting.org/merit-badges/engineering/>



CMB174 Nuclear Science (2026 version)

Nuclear science gives us a simple explanation of the natural world. The ultimate goal of nuclear science is to find out if there is one fundamental rule that explains how matter and forces interact. Earning the Nuclear Science merit badge is a chance for Scouts to learn about this exciting field at the cutting edge of science today.

1-3:30 PM

Instructor: Andrew Gibby

Maximum number of participants: 12

Sessions: STEM Exploration Day

Prerequisites: ** Read the merit badge pamphlet in its entirety **

<https://www.scouting.org/merit-badges/nuclear-science/>

2. Basic Nuclear Science. Do the following:

(b) Choose an element from the periodic table. Construct 3-D models for the atoms of three isotopes of this element, showing neutrons, protons, and electrons. Write down the isotope notation for each model including the atomic and mass numbers. In a separate model or diagram, explain or show how quarks make up protons and neutrons.

(see Resources <https://www.scouting.org/merit-badges/nuclear-science/>)

3. Modern Particle Physics. Do the following:

(b) Do ONE of the following:

(1) Visit an accelerator, research lab, or university and discuss with a scientist how they study the properties of the nucleus or nucleons.

(2) List three particle accelerators and describe several experiments conducted and their associated basic science and practical applications.

(see Resources <https://www.scouting.org/merit-badges/nuclear-science/>)

7. Beneficial Applications of Nuclear Science. Give an example of each of the following and explain how nuclear science is used in these applications: nuclear medicine, environmental applications, industrial applications, space exploration, and radiation therapy. For each example, explain the application and its significance to nuclear science.

(see Resources <https://www.scouting.org/merit-badges/nuclear-science/>)

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CMB158 Programming

Earning the Programming merit badge will take you "behind the screen" for a look at the complex codes that make digital devices useful and fun.

9:30-12 PM **Instructor:** Andy Turner
Maximum number of participants: 12
Sessions: STEM Exploration Day

1-3:30 PM **Instructor:** Andy Turner
Maximum number of participants: 12
Sessions: STEM Exploration Day
Prerequisites: Read the Merit Badge Book.
Complete 1a, 2a, 3, 4, and 6 (Send completed requirements to the counselor by Monday, Feb. 2.)
Requirement 5 will be covered in class.



CMB122 Radio

Radio is a way to send information, or communications, from one place to another. Broadcasting includes both one-way radio (a person hears the information but can't reply) as well as two-way radio (where the same person can both receive and send messages).

9:30-12 PM **Instructor:** Mike Aimone
Maximum number of participants: 12
Sessions: STEM Exploration Day

1-3:30 PM **Instructor:** Mike Aimone
Maximum number of participants: 12
Sessions: STEM Exploration Day
Prerequisites: ** Read the merit badge pamphlet in its entirety **
<https://www.scouting.org/merit-badges/radio/>

Scouts should bring a copy of their Radio Merit Badge workbook to use as a guide for classroom discussion, and for taking notes for better understanding of presented material based on workbook preparation prior to class.

In preparation for this class, Scouts should read the Radio Merit Badge Pamphlet and fill-in the Radio Merit Badge workbook located at <https://public.3.basecamp.com/p/i4VMiH9PHJpXXEWL3QqcPp9C>.
Resources to help complete the workbook are available at <https://www.scouting.org/merit-badges/radio/>.

Requirements: 1, 2, 3, 4, 5, 6, 7, 8 option A, and 9.



CMB159 Robotics (2011 version)

Earning the Robotics merit badge requires a Scout to understand how robots move (actuators), sense the environment (sensors), and understand what to do (programming); he should demonstrate robot design in building a robot. You should help ensure that the Scout has sufficiently explored the field of robotics to understand what it is about, and to discover whether this may be a field of interest for him as a career.

9:30-12 PM **Instructor:** Carla Harter
Maximum number of participants: 12
Sessions: STEM Exploration Day
Prerequisites: Read the Merit Badge Book.