Camp FAQs

What is BOLT?
BOLT, Bioengineering Opportunities and Leadership Training, is a four-day interactive experience for high school students who are passionate about bringing together biology, engineering, and medicine for the advancement of human health. BOLT is a fun, hands-on immersion in the exciting field of bioengineering.

Where is BOLT?
All aspects of the bioengineering camp will take place at the CU Denver Anschutz Medical Campus, primarily in the Bioscience 2 building. Our address is 12705 E. Montview Ave., Suite 100, Aurora, CO 80045.

How can I register for BOLT?
All BOLT registration information can be found on the Department of Bioengineering website. Registration opens in February, first to those who sign up for the BOLT email list, and then to the rest of the world, and is open until camps fill up. Registration and payment is all done electronically and is linked from the website.

What can I expect for the four days of BOLT?
Students will participate in a variety of activities and engage with a number of professionals in the field of bioengineering, from demonstrations to building simple electronics to learning about 3D printing, medical imaging and tissue engineering. See the end of this document for a sample itinerary.

What is the profile of students who would enjoy BOLT?
BOLT is a program designed to expose high schoolers to the vast opportunities available to them in the field of bioengineering. A good candidate for BOLT is a student who is interested in STEM, is excited to learn about research and advances in the medical world, and who enjoys the thought of using their math and science skills to improve the health and wellbeing of people. BOLT students don’t have to want to be biomedical engineers – as long as a student
shows up eager to learn about bioengineering, experience new things, and have fun, they are a great BOLT candidate!

**What is the average age/intended audience of BOLT campers?**

The majority of BOLT campers are students entering their Junior or Senior year in high school; however, we also had a few rising Sophomores, as well as several students who had just graduated high school and were starting college in the fall. BOLT is designed for students who have completed high school biology or above and can be challenging, but students across the BOLT age range enjoyed camp and gained applicable skills and knowledge.

**What skills will students gain by attending BOLT?**

BOLT will provide students with the opportunity to look at many different aspects of bioengineering. Students will be introduced to electronics, medical imaging, the engineering design process, interacting with clinicians, physiology, biology, and tissue engineering.

**What is the cost of one session of BOLT?**

BOLT registration is $800. A $400 deposit is required to secure a spot in camp, and the remainder of the camp cost is due by June 1.

**Are there scholarships available?**

Yes, there are a limited number of needs-based scholarships available. Scholarship applicants must each write an essay on why they believe they should receive a scholarship for BOLT. They also must have a teacher/counselor write a recommendation letter on their behalf and submit directly from the recommender to the BOLT team. All letters must be submitted directly from the recommender; any letters sent in by a student or parent/guardian will be disregarded. The scholarship deadline is March 15, and all applicants will hear back no later than April 5.

**Do I have to have taken High School Biology to attend?**

Yes, the BOLT camp is taught with the assumption that all participants have the base knowledge of biological sciences from a high school Biology course. If you have any questions on this policy, please contact the camp director, Casey Howard.

**Is lunch provided?**

Yes, the Department of Bioengineering will provide lunch, breakfast, and snacks for all campers. If your camper has dietary restrictions, please indicate this on your registration form and we will be sure to accommodate.

**What should I wear?**

Please plan to wear close-toed shoes every day of camp. The Wednesday Tissue Engineering Lab requires that you wear long pants. Please wear comfortable walking shoes each day.

**What do I need to bring?**

All activity materials will be provided including computers, software, hardware, and prototyping supplies. Please bring a notebook and writing utensil for notes and activities. Water and beverages will not be allowed inside the lab area but will be allowed in the hallway so feel free to bring a water bottle.

**Do I have to attend every day?**

Yes - though camp staff of course understand there are sometimes extenuating circumstances. We group students to work on a design project throughout camp, so it can be detrimental for the teams if students do not show up each day. The point of BOLT is also to expose students to the wide range of the field of Bioengineering, and missing a day can cause students to miss important experiences in entire branches of bioengineering.
BOLT scholarships are highly competitive, so all scholarship recipients must be able to attend all of camp as a condition of the award. More information on scholarships can be found on the BOLT website.

**What if I realize last-minute I am unable to attend?**

We need to be notified 2 weeks prior to camp for canceling in order for a reimbursement minus the $20 service fee. If student decides to cancel after the 2-week mark, there is no refund. We will use the 2 weeks to notify students on the waitlist about the opening.

**Is transportation or lodging provided?**

No. You are responsible for your own transportation and lodging. Pick-up and drop-off each day will be at the Bioscience 2 building.

**Is there parking available?**

Yes. Our building is located directly across the street from a large parking garage with Visitor Parking available. There are several other lots on Anschutz for visitors as well. However, it is important to note that there is no free parking on campus. All lots are $1 hour or $8 a day.

**What public transportation is available near the Anschutz Medical Campus?**

We are located near the Fitzsimons Station on the RTD Light Rail “R” line. The station is approximately ¼ mile to the Bioscience 2 building, and we recommended using the blue Anschutz shuttle to get to campus. The blue Anschutz shuttle will bring you to the Health Sciences Library, located across from our building. For more information on shuttle times, click [here](#). Walking is also safe and easy, with a sidewalk leading from the station up to Anschutz.

There are RTD bus stops around campus as well; click [here](#) for the RTD Trip Planner.

**I can’t commute from home each day. Where should I stay?**

Our recommended hotel is the [Springhill Suite by Marriot](#) next to the Anschutz Medical Campus. Ask about the discounted University of Colorado rate!

**How will BOLT benefit aspiring biomedical engineers?**

The goal of this program is to expose and excite students about the possibilities that exist within the field of bioengineering. Students will learn from faculty, researchers and industry engineers. Students will have the opportunity to experience state-of-the-art facilities and work on diverse projects and activities. If there is something you are particularly interested in learning about in the field of bioengineering please email us or include it in your registration form.
BOLT Sample Itinerary

**Monday:**
8:00 – 8:30 a.m. Student Check-In
8:30 – 9:30 a.m. Ice Breaker Activity
9:30 – 10:00 a.m. Safety and Conduct
10:00 - 10:30 a.m. What is Bioengineering?
10:30 a.m. – 12:00 p.m. Design Lab 1: Physician presentation of clinical problem and requirements for solution. Brainstorming and selection of design.
12:00 – 1:00 p.m. Lunch and Games
1:00 – 3:45 p.m. Anatomy Experience
3:45- 4:00 p.m. Wrap up and Clean up

**Tuesday:**
8:00 – 8:30 a.m. Student Check-In
8:30 – 9:00 a.m. 3D Printing and Bioprinting
9:00 – 10:00 a.m. Arduino and Circuits
10:00 – 12:00 p.m. Design Lab 2: Filtering Concepts, Prototyping, and Testing.
12:00 – 1:00 p.m. Lunch and Games
1:00 - 3:45 p.m. Cardio Physiology Activity
3:45- 4:00 p.m. Wrap up and Clean up

**Wednesday:**
8:00 – 8:30 a.m. Student Check-In
8:30 – 12:00 p.m. Amazing Race- Anschutz Style
12:00 – 1:00 p.m. Lunch and Games
1:00 - 3:45 p.m. Tissue Engineering- Discussion of tissue regeneration and scaffolds, design and testing of bone or cartilage scaffold.
3:45- 4 p.m. Wrap up and Clean up

**Thursday:**
8:00 – 8:30 a.m. Student Check-In
8:30 – 10:30 a.m. Tours: Center for Surgical Innovation, CHCO Gait Lab, CHCO Flight for Life.
11:00 – 12:00 p.m. Design Lab 3: Finishing our Design.
12:00 – 1:00 p.m. Lunch and Games
1:00 – 2:30 p.m. Design Lab 4: Present our design to physician. 2:30 - 3:45 p.m. Ice Cream Social
3:45- 4:00 p.m. Survey of Experience, Wrap up and Clean up
Below identifies the potential hazards, pathogens and materials your camper may handle as part of their experience, including the consequences/potential illness or injury that could occur.

<table>
<thead>
<tr>
<th>Type of Exposure</th>
<th>Pathogens and Hazardous Materials Handled</th>
<th>ProceduresPerformed</th>
<th>Potential Consequence of Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment</td>
<td>Basic Hand Tools including Dremel, drill, hot glue gun, simple electronics, soldering iron, microscope, 3D printers, electrospinning.</td>
<td>Students will be using various tools to construct and test working prototypes and electrospinning to make scaffolds. Students will use soldering irons to solder a small circuit board.</td>
<td>Students could cut or burn themselves or experience small shock like static discharge while using these tools. Students are required to wear eye protection and will be trained and briefed before using any tools. All prototyping activities will be closely supervised. Proper electrical grounding practices will be used while working with simple circuits. With electrospinning there is a very minor risk of small shock (like static discharge) if the student gets too close to the equipment. Fume extractors and proper ventilation will be provided.</td>
</tr>
<tr>
<td>Animal</td>
<td>Tissue from chicken.</td>
<td>We purchase chicken from the butcher or grocery store. This will be viewed under a microscope by students.</td>
<td>Exposure is no more risk than if you touch raw meat from the grocery store. We wear gloves and wash our hands after exposure.</td>
</tr>
<tr>
<td>Biological</td>
<td>Students may potentially come in contact with biological materials as we perform cell culture on human cells. Students may use cotton swab to swab cheek cells. Students will visit the AHEC Anatomy Lab and observe cadaveric Biological assays (e.g., Picogreen).</td>
<td>Students should not come in contact with living human cells as the cells will be non-living by the time the student will have contact. Students will be given thorough instructions in the Cadaver lab and will wear appropriate PPE including lab coats, gloves.</td>
<td></td>
</tr>
<tr>
<td><strong>Chemical</strong></td>
<td>Iodine, Ethanol</td>
<td>Staining slides, making solutions for electrospinning.</td>
<td>Exposure is very low risk as we use appropriate PPE and handle these materials very carefully. Just in case, we have spill kits, eye washes and showers for any exposure, but these chemicals we use are low concentration and do not pose significant harm if exposed.</td>
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<tr>
<td><strong>Physical</strong></td>
<td>Anschutz Amazing Race Game, Soccer, frisbee, volleyball, other sports and games.</td>
<td>Students will be walking from place to place around campus and participating in different challenges. Students will be allowed to play supervised sports and/or games during lunch time.</td>
<td>Possible risk of injury during race or sports.</td>
</tr>
<tr>
<td><strong>Radiological</strong></td>
<td>Ultrasound, ECG, Pulse Oximetry.</td>
<td>Students will learn and use different imaging modalities.</td>
<td>There is low risk that electrode adhesive on ECG may result in redness or irritation at site of adhesion.</td>
</tr>
</tbody>
</table>

*Cassandra Howard* is the direct supervisor of your camper and will be with your camper at all times when handling potentially hazardous materials.

The requirements for these activities are:

The university requires [AMC Policy](#) that the Minor complete the requisite safety and health training prior to working in a laboratory.

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Students are required to participate in a tour of our facility to identify potential hazards and safety equipment. Students are required to wear close-toed shoes to participate. During the prototyping activities, students are required to wear eye protection. During the sessions held in the wet lab, students are required to wear pants, gloves, eye protection, and a lab coat. Throughout the camp other personal protective equipment may be required as deemed necessary by the supervising instructor.

All participants are required to wear proper attire including: closed toed shoes, pants and all required personal protective equipment provided by the university.

The closest emergency department is located:

The Children’s Hospital Colorado, 13123 E. 16th Ave., Aurora, CO 80045

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All waivers and documents will be sent electronically through the registration process. Here are examples of the waivers required for all BOLT participants.

Acknowledgment, Consent, and Authorization for Medical Care

Conditions and Provisions

• In the event of an injury requiring medical care, the Camper’s personal health insurance will be responsible for payment of all medical care.

• The Camper is required to advise the Program Leader of any injury or illness as soon as possible.

• In the event of an emergency, permission is granted to the University of Colorado to authorize emergency transportation, emergency medical care and/or treatments and hospital care for the duration of the Camper’s participation in this designated activity. The Parent/Guardian will be notified as soon as possible after the care has been initiated.

• Use of a privately-owned vehicle, including the operation of or as a passenger, may be an option in the event of an emergency. The university does not provide liability or physical damage insurance coverage on privately owned vehicles. The vehicle owner must provide the liability and physical damage insurance coverage for the privately-owned vehicle.

• By signing the Acknowledgment and Emergency Information Form you consent to the conditions as outlined above and affirm that you, as the parent or legal guardian, grant permission for the Minor to participate in the designated activities at the University of Colorado.

• Participant exercises free and voluntary choice to participate in these activities at the university, including use of facilities and equipment provided by the University of Colorado.

• Participant agrees to assume all risk of personal injury or loss, bodily injury (including death), damage to or loss of, or destruction of personal property, resulting from or arising out of participation in the designated activities. Participant also agrees to release, waive, indemnify, hold harmless, and discharge the University of Colorado from all claims, damages, and injuries arising out of the designated activities.
Conduct Agreement

The following requirements must be read and agreed upon by the camp Participant (“Participant”) and his or her parent(s)/guardian(s).

1. The **B.O.L.T. Summer Camp** has a zero-tolerance policy for use and/or possession of alcohol, tobacco, marijuana, weapons, and other controlled substances and items. Possession and/or use of these substances and/or items will result in immediate expulsion from the program.

2. Commuting Participants must check in with **B.O.L.T.** each morning. Participants who drive themselves will always walk to the parking lot at the end of the day with another commuting Participant or with a **B.O.L.T.** staff member.

3. We require Participants to participate in all events and activities. Exceptions may be made if you notify us in advance to request an exception.

4. Participants are not to leave the scheduled activities on their own. When walking around campus, Participants and staff will travel as a group. This includes walking to meals, field trips, etc. Participants and parents/guardians should understand that CU Denver at Anschutz is an open university campus environment and not a K-12 environment.

5. Cell phones must be put away during classes, events, lectures, activities and workshops unless they are being used to facilitate the assigned activity.

6. Participants will be held responsible if they cause any damage to CU Denver property.

7. The **B.O.L.T.** camp promotes equality and respect among all faculty, staff, and Participants, and does not tolerate harassment or bullying of any kind. In the case of reported harassment or bullying, Participants involved will be interviewed, which may result in parents being contacted and expulsion from the program if necessary. In the case of such events, Participants may first consult with their Program Leader who will then take the issue to the correct authority.

Media Release

Throughout the course of the program, the **B.O.L.T.** camp will be taking audio recordings, video recordings, and photographs for use in University of Colorado promotional, educational and research programs. These may be distributed for Participant use; used on social media such as Facebook, Twitter, Instagram; used on the University of Colorado Denver websites; printed on future program promotional materials and more. Such audio, video, film and/or print images may be edited, duplicated, distributed, reproduced, broadcast, and/or reformatted any form and manner.

This is to certify that I give permission to the Regents of the University of Colorado and the University’s officers, agents, employees, successors, licensees and assigns to photograph or make audio or video
recordings of me and my image or likeness. I understand that all right, title and interest in such recordings and photographs belong exclusively to the University of Colorado and that I will receive no financial compensation now or in the future for their use or the use of my image and likeness. I understand that my consent to the use of the recordings and my image, likeness, appearance and voice is forever.

Transportation

I hereby certify that the transportation plan outlined in the B.O.L.T. registration form online is the plan I elect to follow and wish B.O.L.T. staff to strictly adhere to.

I understand that in the case of an accident, my personal vehicle insurance will be the primary coverage. I agree to assume all risk of personal injury or loss, bodily injury (including death), damage to or loss of, or destruction of any personal property resulting from or arising out of participation in the designated activity including transportation to and from the activities. I also release, waive, indemnify, hold harmless, and discharge the University of Colorado from all claims, damages, and injuries arising out of my transportation to and from the University event.

Health/Diet/Risk Assumption Form

Coordinators are equipped to handle minor injuries and are First-Aid and CPR certified. In case of emergency, Participants may be taken to the Children’s Hospital Colorado emergency room.

Children’s Hospital Colorado

13123 E. 16th Ave., Aurora, CO
80045 (720) 777-1234

Coordinators will refer to medical emergency contact information, allergy information, and medication information provided in online B.O.L.T. registration form and will have that information on hand in case of emergency.

Please note that participants are responsible for carrying their own medications. We require that Participants self-administer their own medications.

I agree to the following:

- I have read and understood the above conditions regarding prescription and non-prescription medications and will self-administer my medications.
- I have read and understand the activities and itinerary detailed in the B.O.L.T. registration form online and in the Camper Agreement and Waiver form.
- I agree to allow treatment of my Participant in case of emergency until I can arrive.
- I agree to assume all risk of personal injury or loss, bodily injury (including death), damage to or loss of, or destruction of any personal property resulting from or arising out of participation in the designated activity. I also release, waive, indemnify, hold harmless, and discharge the
University of Colorado from all claims, damages, and injuries arising out of my activities, including my use of equipment and facilities provided by the University of Colorado.

- The University of Colorado does not provide health insurance for individuals participating in activities made available or sponsored by the University of Colorado. As such, you or your personal health insurance will be responsible for payment of medical services, evacuation services, and care for any injuries or illnesses sustained during the duration of this program.

If you would like to join the BOLT priority info email list, you will be notified when registration open a week before the general public. To join this list, please visit:

https://forms.ucdenver.edu/secure/bolt_interest_form