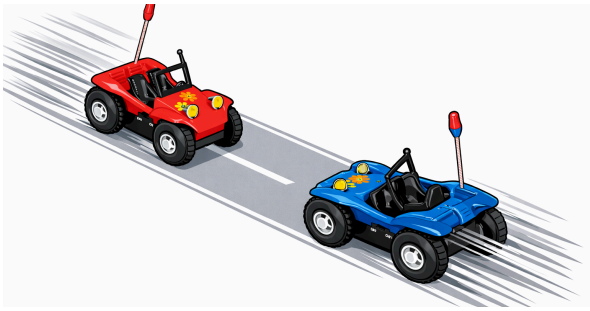
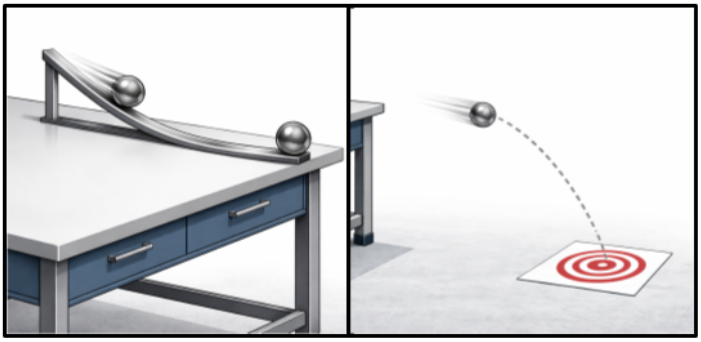
40th Annual
PHYSICS OLYMPICS





Thursday, March 19, 2026
8:30 AM - 1:00 PM
Farmingdale State College
Lupton Hall

Sponsored by **Long Island Physics Teachers Association**

Hosted by Farmingdale State College

Registration for 2026 Physics Olympics

Registration:

- Register your 5-student team at www.lipta.org.
- A maximum of 5 students may attend. Spectators are not allowed.
- Each advisor and student participant must turn in a **signed** "Acknowledgement of Student Safety Protocols and Photo Release Form" upon arrival to the event.

Confirmation:

- You will receive a confirmation email after you successfully register.
- Check www.lipta.org to make sure that you are on the official list of participants ***before the event*.**

Registration deadline: March 12, 2026. Only teams registered by this date may participate. There is a maximum of 18 teams, so register early!

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Please enter the names of expected participants by March 12, 2026 at www.lipta.org.

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Fee for the Physics Olympics:

Members	$125*
Non-members	$140* (includes one year membership)
	*includes 2 pizzas and soda

Send a check or PO to our address: **LIPTA**
419 Renee Drive
Bayport, NY 11705

Or pay online by credit card or Paypal at www.lipta.org
Need an invoice? Email us a request at treasurer@lipta.org

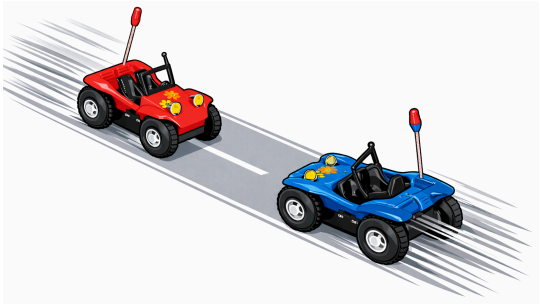
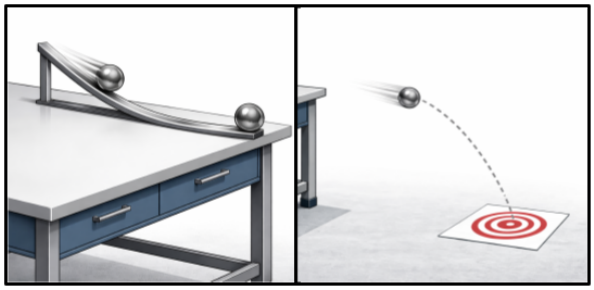
Physics Olympics Information:
Date: **Thursday**, March 19, 2026
Address: Farmingdale State College, 2350 Broadhollow Road, Farmingdale, NY 11735
Building: Lupton Hall
Registration: 8:30 a.m.
Event Start time: 9:00 a.m.
Awards: 12:45 p.m.

Text Justin King at 631-241-5404 or email king@lipta.org for more information.

The Rules

The events for the 2026 Physics Olympics are:

The Physics Bowl	Fermi Questions	Bowling for Glory
		

Crash Course	Going Ballistic
	

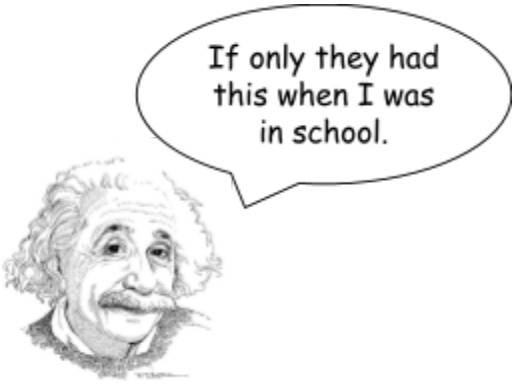
1. Each school may send a single team of no more than 5 students. Additional students and spectators cannot be accommodated. Violation of this rule will result in disqualification of the team.
2. All participants and advisors must turn in a signed photo release form, copy enclosed.
3. Each team must have a faculty advisor. Faculty advisors will judge the events. At least two judges will judge each event. Judges will not evaluate their own school's team.
4. Each event is timed. Teams that arrive late for an event will forfeit that event.
5. Teams should bring scientific or graphing calculators for the Physics Bowl, and are encouraged to wear team T-shirts. Equipment, including calculators, for other events are limited to what is provided by the judges at each event, as outlined in these rules.
6. Accessing the internet is prohibited during competition; students are not allowed to use phones during events.
7. For each event, the total number of points for 1st place will equal the number of teams present. For example, if there are 16 teams competing:

   1st place = 16 points
   2nd place = 15 points
   3rd place = 14 points

   The last place team will score 1 point. Tying teams will split points equally for the places in question.

8. If two teams tie in overall points, their placement in the Physics Bowl will be the tiebreaker for overall standing.
9. Trophies will be awarded to the top three teams in each event and to the four teams that accumulate the most points overall.
10. A certificate will be awarded to the team with the best physics T-shirts, as determined by the judging panel of experts. The T-shirt award will *not* count towards the overall trophy.
11. All judges' decisions regarding events are final. The wording of each challenge in this year's event book has been carefully prepared to define each task as precisely as possible. It is expected that all participants will produce solutions which comply with the task as defined. Normal physical interpretations will be applied to all the terminology used in defining the tasks. Those solutions which, in the opinion of the judges, do not comply with the spirit or intent of the event will be disqualified. General questions regarding the events may be directed to the coordinators of the Physics Olympics. The coordinators will accept inquiries that may help them to prepare for unusually good solutions to the problem.
12. Students are required to remain with their team and in the designated areas at all times.
13. Any concerns regarding inappropriate behavior and/or conduct, including any form of harassment, must be brought to the attention of a LIPTA exec board member. Members will be present at the Physics Olympics or may be contacted at exec@lipta.org.
14. Text or email Justin King at 631-241-5404 or king@lipta.org if you have any questions.

The Schedule



1. Events begin at 9:00 a.m.
2. Park in Student Lot #9, across the Great Lawn from Lupton Hall. Look for LIPTA signage.
3. Teams may pick up their materials between 8:30 and 9:00 a.m.
4. Team registration includes lunch (2 pizzas + soda).
5. Morning refreshments and lunch will be provided to faculty and students.
6. Trophies will be awarded at 12:45 p.m.

Acknowledgement of Student Safety Protocols and Photo Release Form

Photo Release

Please sign below to grant permission for photographs and video taken during the Physics Olympics event to be used by Long Island Physics Teachers Association (LIPTA) for publication on the LIPTA website and in the LIPTA newsletter.

Student Safety Protocols

For the safety and well-being of all students, team members are required to remain together in designated areas at all times. To ensure a safe environment, there will be a minimum of two LIPTA board members and/or teacher volunteers present in each room or gathering space at all times.

Any participant (student, teacher volunteer, or LIPTA board member) with safety concerns or knowledge of an inappropriate incident should immediately contact the Physics Olympics Coordinator, Justin King, or LIPTA President, Gillian Winters, so we can address the issue promptly and ensure the continued safety of all students.

Please sign below to acknowledge these protocols and agree to abide by them while attending the Physics Olympics.

School name: _____

_____	_____	_____
Participant (print)	Signature	Date
_____	_____	_____
Parent/guardian name if participant is under 18 yrs	Signature	Date

★ 1 signed photo release form is required for each participating student and faculty advisor.

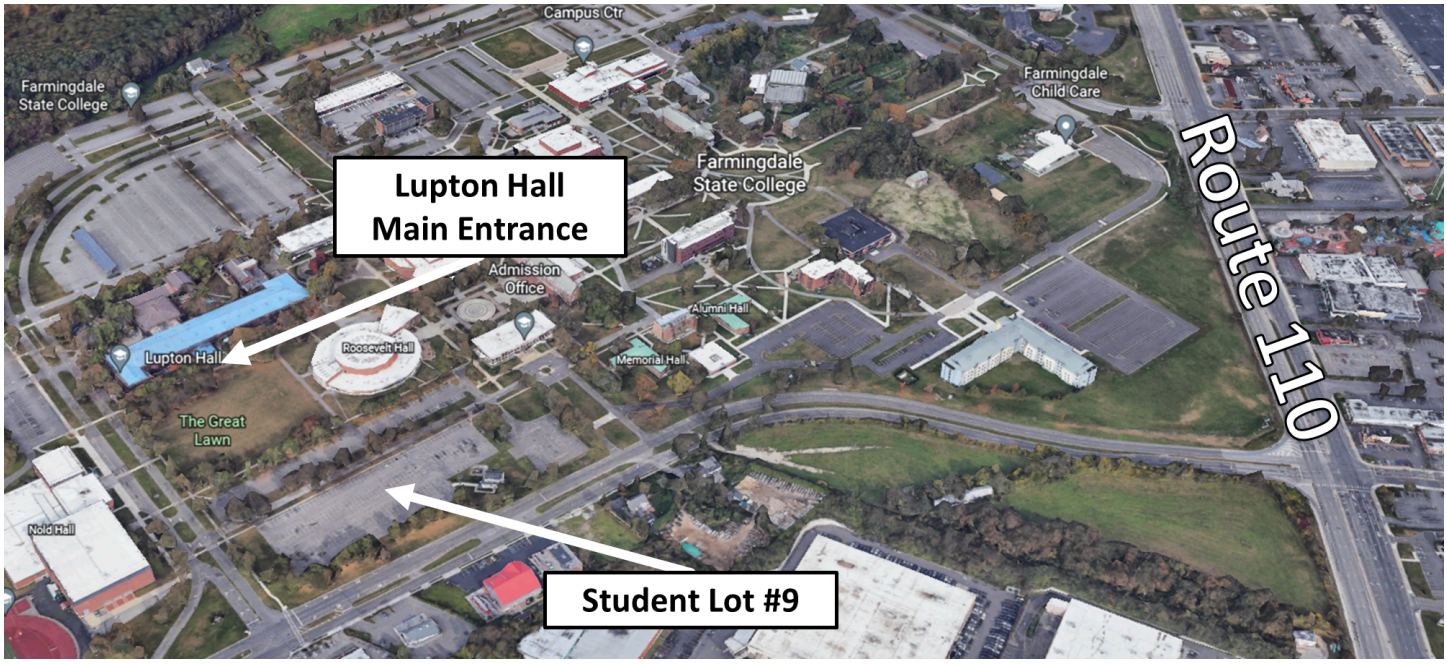
Duplicate for each participant (5 students and faculty advisor)
Additional forms can be obtained at www.lipta.org

T-shirt Contest

Do you have a phlair for physics phashion? Show us your finest at the LI Physics Olympics. Our panel of experts will recognize, with a certificate, the team with the best physics T-shirts!

- Judging will be based solely on physics content; professional printing is not necessary.
- For a team to qualify for this contest, the team's t-shirts must all have the same design.

Farmingdale State College



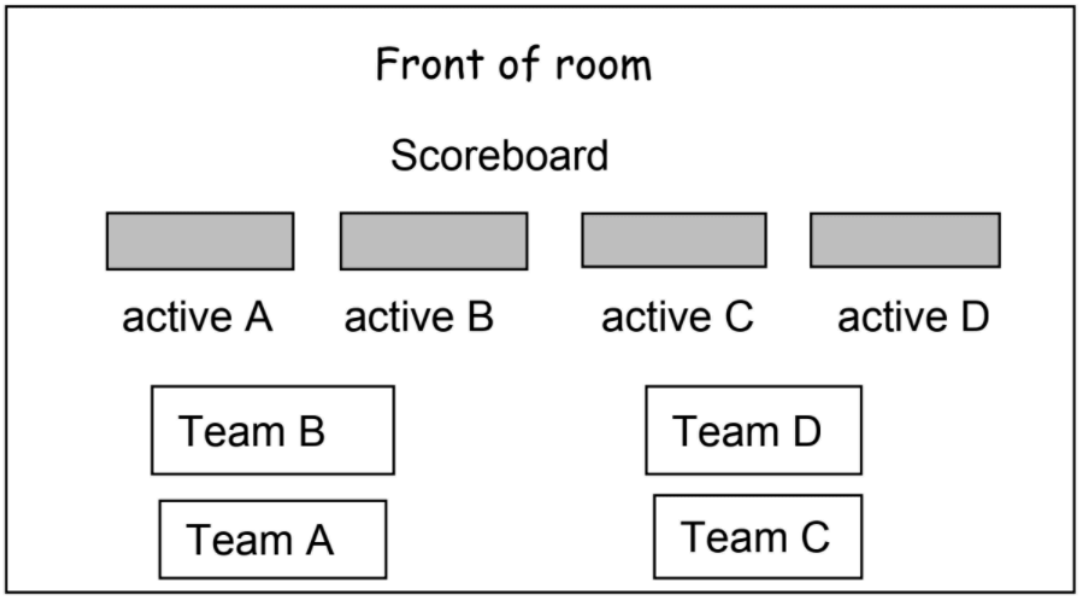
Physics Bowl

Objective:

To be the first team to score twenty points. Winners of the preliminary rounds, as well as one “wild card” team, will compete in the trophy round.

Rules:

1. All members of the team will participate. Three of the five members will be designated to rotate into the “active player” seat.
2. All clues will be multiple choice questions at an introductory, algebra-based, high school level. In the trophy round some questions may be at the honors level. Regents reference tables - both the 2006 and 2025 editions - and paper will be provided. Scientific or graphing calculators may be brought and used.
3. One member of each team, the “active player”, will sit at the shaded location, facing away from teammates. (See diagram)
4. The first “active player” to submit an answer will earn one point for the correct answer or lose two points for a wrong answer. The other “active players” will each earn one point for a correct answer, with no penalty for a wrong answer.
5. If the first “active player” to submit an answer was correct, their teammates will have the opportunity to try for a bonus point. To earn a bonus point, the remaining team members must answer the question correctly without help from the active player. Only one person may speak for the team. There is no penalty for an incorrect answer.
6. After each question, one of the three designated team members will rotate into the shaded location and will become the “active player” for the next question.
7. The first team to reach twenty points will advance to the trophy round.



Fermi Questions

Objective:

To estimate quantities which are either difficult or impossible to measure directly.

Rules:

1. Each team will be provided with a list of Fermi questions.

   An example of a Fermi question is:

   How many drops of water are there in the Long Island Sound?

2. Answers are to be given to the nearest order of magnitude.

   Example: Acceptable answer: 10^3

   Unacceptable answer: 2×10^3

3. One point will be deducted for each answer which is not in acceptable form.
4. Questions must be answered in the allowed time.
5. Only one set of answers may be submitted by a team.
6. Calculators and other electronic devices are not permitted.
7. Reference materials are not permitted.
8. No work needs to be shown.
9. Each answer which agrees with the accepted answer will be awarded 10 points. One point will be subtracted for each order of magnitude different from the accepted value, to a minimum of 0 points.

Tiebreaker: The time to complete the event will serve as a tiebreaker.

Time limit: 15 minutes.

Bowling for Glory

Objective:

To maneuver a bowling ball through a set course in as little time as possible using only a broom and your knowledge of physics.

Rules:

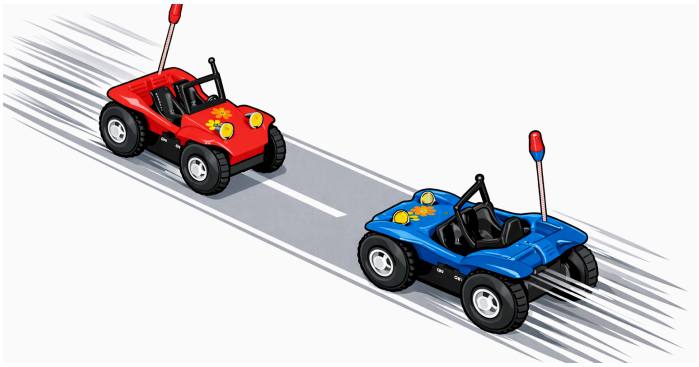
1. Every member of the team will participate in a relay sequence.
2. A course will be laid out on the floor, using masking tape, cones, and water bottles partially filled with water as route markers. The course may include straight sections, slalom sections, right angle turns, a circular section, and "no touch" zones. The ball will start and must end within a designated handoff zone.
3. The ball starts from rest in the handoff zone, and the run begins on the mark of the Timing Judge.
4. The first student guides the ball through the course, returning to the handoff zone.
5. Only when the bowling ball is within the handoff zone - though not necessarily at rest - the first student will pass the broom to the second student.
6. The second student will repeat the course, passing the broom to the third student, and so on, once the bowling ball is within the handoff zone.
7. When the fifth student guides the bowling ball into the handoff zone they must bring the ball to a complete stop, at which point the Timing Judge will stop the clock.

8. The following time penalties will be added to a team's run time:
    a. 20 seconds each time any student touches the ball with anything other than the bristles of the broom
    b. 10 seconds each time a bottle marker is knocked over
    c. 5 seconds each time a bottle marker is touched or moved
    d. 5 seconds each time the ball touches any cone, wall, door, cabinet, chair, or table in the room
    e. 5 seconds each time the ball is touched inside a "no touch" zone; 10 seconds for continuous rather than instantaneous contact
    f. 5 seconds each time the bowling ball passes over a side boundary of a "no touch" zone. In addition, the ball must be brought back to the beginning of the zone (using only the broom bristles) and made to exit at the end line
9. The team's final time will be the sum of their run time and any penalties they accrued during the run. The lowest final time wins.
10. Teams that don't complete the entire relay within the time limit will have a run time of 7 minutes and will be placed by final time below all teams that finished within the time limit.

Tiebreaker: In the event of identical final times, the team with the fewer number of penalties (regardless of type) will be the winner.

Time limit: 7 minutes.

Crash Course



Objective:

To determine the location where two constant velocity cars will collide in a head-on collision.

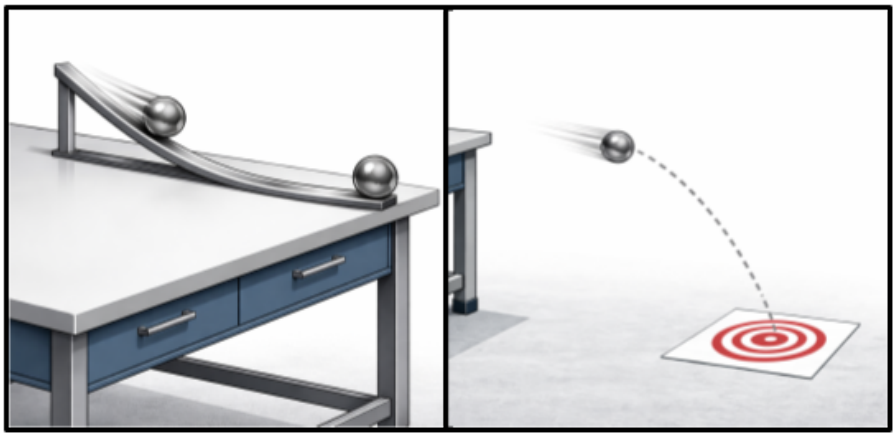
Rules:

1. The team will be provided with two constant velocity cars of different speeds. They will also receive a meter stick, a stopwatch, a scientific calculator, and a score sheet. Once the team has received their equipment, a judge will start their timer.
2. The team may experiment with the cars until they feel they have collected sufficient data.
3. The team will return the equipment, except the calculator and score sheet, to a judge, who will inform the team of the starting locations of each car.
4. The team may perform whatever calculations they deem necessary to determine the position at which the front edge of one car will first make contact with the front edge of the other car, expressed to the nearest millimeter. The team will write their predicted collision position on their score sheet and submit it to a judge, at which point their timer will be stopped.
5. When the track is available, the same cars will be returned to the team. Team members will release the cars from the indicated starting locations simultaneously.
6. Judges will observe the collision of the cars and record the experimental collision position, measured to the nearest millimeter.
7. The team's score will be the absolute value of the difference between the predicted collision position and the experimental collision position. The lowest score wins.

Tiebreaker: The shortest time will serve as a tiebreaker.

Time limit: 15 minutes.

Going Ballistic



Objective:

To determine where a horizontally projected metal sphere will land after being struck by another metal sphere that is allowed to roll down a ramp.

Rules:

1. Each team will be stationed at a lab table with a ramp, and supplied with a digital balance, meter stick, plumb bob, stopwatch, calculator, paper target, masking tape, and scrap paper.
2. A judge will give each team the metal sphere that is to be rolled down the ramp, at which point the team's time will begin.
3. When the team is done collecting data with the rolling metal sphere, they will return it to a judge and receive the projectile metal sphere.
4. After determining the predicted landing position of the projectile metal sphere, the team will tape the paper target to the floor with the center of the target indicating the predicted landing position. At this point a judge will stop the team's time.
5. A judge will return the same rolling metal sphere to the team and place a sheet of carbon paper over the paper target.
6. Members of the team will place the projectile metal sphere on the indicated position at the bottom of the ramp and then release the rolling metal sphere from the top of the ramp.
7. Judges will collect the paper target for scoring
8. The team's score will be the distance between the center of the paper target to the center of the mark left by the carbon paper during the first impact, measured to the nearest millimeter. The lowest score wins.

Tiebreaker: The shortest time will serve as a tiebreaker.

Time limit: 15 minutes.