



What is it?

Fast Motion Studios is a Toronto based film and new-media production company with complete motion capture and stunt rigging facilities for motion picture, television and gaming development, from pre to post production. The film and new media industry is thoroughly STEM-based*, integrating Science, Technology, Engineering and Mathematics in creative and innovative ways to design incredible feats of action which are believable in the context of the storyline. (*note; we prefer STEAM, adding Arts to core STEM subjects!)

Why Physics?

High school physics courses are central to STEM education and are gateway courses to university engineering, college technology and workplace apprenticeship programs. Designing safe stunt action requires application of physics principles and 21st century skill sets. A field trip to FAST Motion Studios will provide high school students with unique, authentic hands-on, minds-on applications of physics while showcasing essential skills such as critical thinking, communication, collaboration and creativity. Students are afforded an insider's view of a diverse array of career pathways in a burgeoning, recession-proof industry - with an aging Canadian workforce! We welcome a fresh infusion of young innovative entrepreneurs.

What Will Students Do?

Drawing upon a select series of stunt 'gags', student teams will create scenes incorporating stunt action. They will perform & record the scene, make measurements and unpack the grade 11 or 12 physics concepts involved in this rich, authentic context. Lesson concepts will be co-designed by their physics teacher(s) in concert with Dave Doucette, OCT, an award winning physics teacher and **FAST Motion Studios** Education Director, who will lead lessons at FAST. Stunt riggers and stunt performers at FAST are industry experts working on numerous international productions.



Ontario
Ministry of Children & Youth Services:
Education & Training

"Experiential learning opportunities can help young people appreciate the relevance of what they are learning in school. By taking field trips where they can engage in hands-on learning, young people have the opportunity to connect with issues and ideas outside the classroom and build self-efficacy as they learn more about what they enjoy doing."

As seen on YTV

The
zone



Where are the Physics Lessons?

Sessions are 2 and half hours in length, in AM or PM offerings, Dates and Times can be arranged through our Education Director, Dave Doucette. The cost is \$650.00 (+13% HST)
Contact: Dave@fastmotionstudios.com



To High School Physics teachers:

Steps to setting up your *FAST Motion Studios* fieldtrip:

STEP 1 Select a date

Send an email to Dave Doucette (dave@fastmotionstudios.com) with date(s) you prefer for the field trip. Dave will reply to confirm the availability of the date(s) or to arrange an alternate if needed.

Step 2 Register class(es) for a field trip

Dave will send you the link to the Google document for registering your team. Complete the form and submit. A maximum of 40 students can be accommodated (no minimum).

Step 3 Select Physics Concept(s)

The registration form allows a selection of physics topics from SPH3U/4U/4C courses as well as an estimate of the number of students attending. Once the registration form is submitted, Dave will outline a lesson plan for the selected topic(s). In general, it would be best to select a narrow range of topics to allow for deeper treatment.

Step 4 Prepare Student Teams

[It is not necessary for students to prepare for the physics content of the field trip. However, as they will be working in collaborative groups, they could organize a tentative team structure (below)]

Up to 5 student teams will be asked to create a 'scene' in which a rigging action is part of the action. Each team, of 5-8 members, will provide some or all of the following roles (roles can be changed, extended or combined as needed):

- action actor: this person will be outfitted with the rigging harness and perform the action
- a director: coordinates all team members to develop, perform and record the scene
- actor(s): as needed - to play roles as needed to complete the scene
- camera person: films the action for later viewing and analysis
- data recorder: records data needed for analysis (masses, lengths, times, angles etc)
- safety person(s): considers the safety of the action actor and crew
- an equipment person: is responsible for proper use and care of team and FAST equipment
- rigging assistant: assists with the 'pull' of the action actor in the action scene.

Once the scene, procedures and measurements are determined, the team can proceed to carry out and film their action.

Step 5 What to Bring

- A Waiver form will be forwarded in your email package. Please copy and distribute to your students. This will need to be signed and presented at the studio.
- Measuring instruments: (eg. metric tape or ruler, stopwatch (or cell phone), weight scale
- Clothing - loose, comfortable clothing esp. for the 'action actors' in each team
- Camera - a cell phone camera will work fine, as would any traditional camera
- **Option:** a \$4.99 video data analysis app exists for iPhone, iPod touch, and iPad
<https://itunes.apple.com/us/app/vernier-video-physics/id389784247>
"Capture video of an object in motion, then tap to track the object automatically.
Video Physics instantly creates trajectory, position, and velocity graphs for the object."
- Payment: the field trip cost is \$650.00 (+ 13% HST)

Contact info: Dave Doucette email: dave@fastmotionstudios.com phone: 289-221-2265

FAST MOTION MEDIA GROUP
School Field Trip Waiver

Attendee Personal Information (Please print in block letters, except for signature. This information is for our internal records and will not be shared with other parties.)

First Name _____ Surname _____
School: _____ School Board _____
Date of Birth _____ day / _____ month / _____ year Age _____
Gender : Male _____ Female _____ PGP (preferred gender pronoun) _____
Address _____
Province _____ City _____ Postal Code _____
Email _____
Phone (Home) _____ Phone (Cell) _____
Parent/Guardian work phone or cell phone: _____
Parent/Guardian email address: _____
Health concerns, allergies, medication: _____
_____ Health card # _____

Assumption of Risk: I, the undersigned, hereby agree and acknowledge that observing or participating in the wire rigging stunt activities at FAST Motion Media Group has inherent risks including, but not limited to: wire abrasions, rope entanglements, surface contact cuts and abrasions, failure of ropes or harnesses, contact with other participants, failure to follow FAST Motion Media Group instructions and failure to ask for information.

WAIVER: I fully accept and assume all responsibility for my own safety and all risks of personal injury, death, property damage or loss resulting from my participation in all activities organized by Fast Motion Media Group Inc. and or its affiliates (the Organization). I agree and understand the Organization cannot guarantee all activities completely safe although the Organization has taken steps to reduce risks and increase safety. I hereby agree to be liable for and to hold harmless and indemnify the Organization, its directors, judges, instructors, coaches, officials, advisors, members, guests and landlords from all actions, proceedings, claims, damages, costs and liabilities of whatsoever nature or kind arising out of or in any way connected with my participation in all activities organized by the Organization.

Attendee signature (if 18 yrs of age or older) _____

If attendee is under 18 years of age:

I am the parent/guardian of the applicant who is under 18 and am executing this waiver of behalf of the applicant in my capacity as Parent/Guardian and with the intent that this waiver be binding on me and the applicant for all purposes.

I have thoroughly read and understand the above waiver. Yes No

Date _____ Parent / Guardian Name _____

Parent / Guardian Signature _____

Please bring this completed form to FAST Motion Studios on the date of your school field trip. Thank you.