F1 in Schools
North America

Informational Brochure
North America

+ Mission

F1 in Schools North America and Nexus North America aim to provide the exciting F1 in Schools STEM challenge and education experience to students throughout the U.S. and Canada. Working with our committed industry sponsors, we hope to expose the next generation to Science, Technology, Engineering and Mathematics (STEM) careers and the world of Formula 1.

It's our goal to see F1 in Schools become a household name in the U.S. as a Career Technical Student Organization that is available to all regardless of their socioeconomic background, race, or gender. We see the F1 in Schools challenge as a fun learning environment where students can gain skills, make connections, and develop an informed view about careers in engineering, Formula 1, science, marketing, project management, and technology.

+ Vision

From a young age, we see students partnering with industry sponsors to learn new skills from professionals while working to advance personal skills by creating their own mock Formula 1 team. Students would develop teamwork and interpersonal skills, while furthering their STEM education. In addition, we see students gaining skills in areas such as project management and logistics. It is our hope that students who have taken part in the F1 in Schools program can better visualize the possibility of a career in STEM and would bridge the gap between the ever growing job market and the need for STEM majors.

+ Background

The F1 in Schools challenge is designed to operate like a true Formula 1 team and provides students from all socioeconomic backgrounds with a multi-disciplinary skill set. These skills will help them solve problems and the critical issues of the 21st Century. The program started in the U.S. through the Technology Student Association (TSA) in 2005. Since then the program has been hosted by a number of organizations and has sent many teams to represent both the U.S. and Canada at the World Finals – even producing World Champions!

In the Fall of 2019, Nexus North America took over the F1 in Schools program for the U.S. and Canada and is committed to creating a nationwide program available to all students interested in STEM. Nexus North America is a non-profit organization dedicated to student STEM education and is a registered 501c(3) in the US.

About the Challenge

Students aged 9-19 | 3-6 Students per team

Design, manufacture, and race two cars

Develop enterprise and engineering portfolios, along with a Pit Display detailing their work

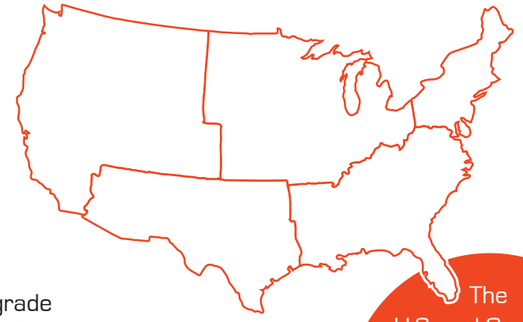
Produce a Verbal Presentation on their team and its work

Undergo an Engineering Interview with industry experienced engineers

Create a brand and identity for their team with a marketing and digital media strategy

Generate a team budget, acquire, and manage sponsorships and partnerships

F1 in Schools in the U.S. & Canada



The U.S. and Canadian Regionals are split into five sections of the U.S. with providences of Canada incorporated into each.

Engage Students in STEM at an Early Age

The F1 in Schools program starts at 3rd grade and moves students through the program all the way through their first year of college. It's multidisciplinary in approach and creates an environment where students are able to learn, design, build, and race!

Disrupt conventional learning and inspire students to want to pursue STEM

F1 in Schools disrupts conventional learning and inspires students through a hands-on, fun, exciting, creative - yet challenging - STEM program. Our program provides students with a skill set that is the steppingstone to amazing STEM based careers and social change.

Inspire and train our educators to teach through a hands-on, multi-disciplinary approach

F1 in Schools invokes educators to inspire! We teach our team mentors how to lead and inspire students through their team development and hands-on design and manufacture of a scale F1 race car. Secondly, our professional development program provides instruction and guidance to educators on how to teach the F1 in Schools curriculum to students in the classroom in a hands-on, fun, and exciting way.

1 Regional Finals

Teams choosing to compete outside of their school must first compete in a regional final competition. These competitions feature the teams from various states.

2 National Finals

Up to 25 teams from both countries compete at the national event for the right to represent at the World Finals. Both the Development and Professional Class compete at the National level, however only Professional can advance to the World Finals.

3 World Finals

Teams from over 51 countries compete to be World Champions! This is the ultimate goal that many teams spend years working towards!

As our program continues to grow in the two countries, state and district competitions will be added to accommodate expected growth. Additionally, our program aims to reach more than just competitive teams, as we work to bring STEM challenges to younger students in elementary schools via educational lesson plans and the F1 in Schools primary program. We aim to create opportunities for all students, not just those who pursue the World Finals.

Entry Class -
3rd-5th Grade

Development Class -
6th-8th Grade

Professional Class -
9th-12th Grade

*Suggested grade levels for competition classes. Students may join any class.

DESIGN
ANALYZE
MAKE
TEST
RACE

GAIN SKILLS IN
S.T.E.M.

Aerodynamics
CNC Manufacturing
Computer-Aided Design Development (CAD)
Computer-Aided Manufacturing (CAM)
Computational Fluid Dynamics (CFD)
Physics
Mathematics
Web Development
Programming

3.5 million US STEM jobs by 2025
-National Association of Manufacturing

& DON'T FORGET...

Budgeting
Project Management
Fundraising
Networking
Graphic Design
Time Management
Organizational Skills
Digital & Physical Marketing
Logistics Management
Presentation Skills
Branding Development
Resource Management
Teamwork

WHERE CAN F1 in Schools STEM Challenge TAKE YOU?

Success Stories

George Britton

George Britton served as the Team Manager on his collaboration team, Union International, in 2015 that won the World Finals. Through F1 in Schools, George was accepted into the Unilever Williams Engineering Academy that he participated in while attending university and competing with his Formula Student team. This lead to his current job as a Performance Engineer with the Williams F1 team.

- 2015 World Champion
- Attended Oxford Brooks University on Scholarship

Amanda Clark

Amanda competed during 2010 and 2011 as the Team Manager for UNITUS Racing. After winning the World Championships in 2010, she went on to attend the University of Florida to earn a degree in Telecommunications. Inspired by her participation in the F1 in Schools program, Amanda pursued a career as a Television Production teacher and STEM competition advisor at Southeast High School.

- Attended the University of Florida on the Lombardi Scholarship, which she accredits to her time in F1 in Schools
- “Winning our world championship honestly changed my life... Without F1iS, I’d be a completely different person.” - Amanda Clark

Our students, go places...

Students that have competed in F1 in Schools not only earn valuable skills but become well rounded individuals that are highly sought by prestigious universities and employers of the 21st century. Our alumni are all over the United States, Canada and the World, becoming tomorrow's leaders.

Princeton University
Vanderbilt University
Texas A&M University
Duke
Yale
University of Toronto Scarborough
University of London Press
Georgia Tech
Massachusetts Institute of Technology
University of Saskatchewan
University of Michigan
Stanford University
Penn
Oxford Brookes University
Texas
USC University of Southern California
Carleton University
UNSW Canberra
York University
UNG University of North Georgia
Queen's University Belfast
University of Oregon
UF University of Florida
The University of Adelaide

"F1 in Schools is giving me real world experiences in engineering, and is opening me up to a world of exciting possibilities"

- Taran Damalcheruvu
F1 in Schools National Finalist 2019

...and do, great things.

"Without F1 in Schools... I'd be a completely different person."

- Amanda Clark
F1 in Schools World Champion 2010

salesforce
Apple
Facebook
GM
EY
Red Bull
American Red Cross
Lockheed Martin
NBC Sports
Google
Rolls-Royce
McLaren
National Bank
Quora
LinkedIn
IBM
Williams Racing
Microsoft
Tesla

THE ROAD TO F1 in Schools

STEM Challenge

1 Read the rules and regulations!

Download the official rules and regulations from the F1inSchoolsNA.org website. These include competition specifics, required project elements and important dates

2 Form your team!

Team up with other students from your school or local area to form a team of 3-6 students. You'll also need a lead adult - this could be a teacher, parent or mentor.

3 Affiliate your school with F1 in Schools NA!

Affiliate via our website to gain access to the Team Portal where we post important competition updates and training materials. We also use this information to check up on your team along the way to see if you need anything!

4 Develop your team branding and identity!

Come up with your logo and marketing materials - and don't forget social media! It's also important at this step to establish team roles so every member has a responsibility throughout the project.

5 Design, manufacture and test the F1 car of the future!

Using the technical regulations, your head full of ideas and research, design your F1 in Schools racecar! Manufacture and test prototypes and then your final race-ready cars.

6 Create your Portfolios, Pit Display and Marketing Document!

As a team, these materials detail your journey and identity. In addition to developing your car, your team will also have to raise funds along the way and manage your time, resources, and finances. Not to mention, you'll also have to promote your brand and sponsors with a marketing strategy.

7 Register for a Regional Competition!

The first step to competing outside your school is attending and competing at a regional competition. These typically take place in the Fall of the school year and serve as a qualifier for the National Finals.

8 Register for the National Competition!

Teams that advance from a Regional Competition compete at the National Finals. Here the best of the best from the US go head-to-head for the right to represent the US and Canada at the World Finals and for the title of National Champions!

Team Roles

In order to compete, teams must allocate job roles to all members. Ideally, one role should be designated to each person. However, teams may double up on roles and responsibilities, depending on the number of students on a team. The following job roles are examples:

Team Manager
Responsible for managing the team and all project management efforts - including ensuring that all race cars are ready for the competition.

Resource Manager
Responsible for organizing time, materials and equipment for designing and making the car(s).

Sponsorship & Marketing Manager
Responsible for generating sponsorship proposals for potential partners, contacting firms and marketing the team through different digital and physical media.

Graphic Designer
Responsible for producing the team branding and identity - including team logo, marketing materials' design, car paint scheme, and car renderings.

Design Engineer
Responsible for the styling and aerodynamic performance of the car design.

Manufacturing Engineer
Responsible for the manufacture of the car and the constraints of the machining process.

Project Challenges

Considerations For New Teams

Project Budget

F1 in Schools teams budgets range from hundreds of dollars (school and state competition teams) to thousands of dollars (regional and national competition teams). There is no minimum or maximum budget for a team and most teams fund their efforts through sponsorship and in-kind partnerships.

Manufacturing Capabilities

Teams will have to manufacture prototypes and their official racecars with a CNC router and additive manufacturing methods. Many teams opt to purchase and utilize a Denford CNC router for this purpose. However, teams do not need to have access to these resources at their school - new teams with limited budgets can partner with local universities, machine shops or other teams.

Time Commitment

The F1 in Schools program is truly an experience where students get back what they put into their team. The competition can be a large time commitment for students as it requires a lot of dedication to create and run a mock race team with multiple project elements.

Lead adults can expect to be fairly involved with Entry and Development Class teams as they need extra coaching and guidance. Professional Class teams often require assistance with program logistics (such as travel plans and budget management) but are largely led by their student Team Managers.

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