

# **FS** **FORMULA** **STUDENT** *Balkans*



## **Changelog**

V0.1 – Initial release



## **General Information**

### **Formula Student Balkans**

Formula Student Balkans (FSBk) is part of the Formula Student competition series and is open to entries for open-wheel vehicles from student teams.

The main purpose of the event is to expand the Formula Student Network in Romania and in the Balkan region.

Furthermore, the event aims to:

- further develop the knowledge and interests of students, through the support of government, industry, and academia, by providing the students with an opportunity for the practical application of skills and knowledge acquired in their classroom studies. The students will play the main role in planning, designing, and constructing an automobile on their own which will be judged and tried.
- be a place where knowledge and skills are verified while placing the highest priority on ensuring safety.
- conduct the competition in connection with representatives of industry, government, and academia.
- conduct the competition with a wide range of both individual and corporate volunteers.
- provide networking opportunities for students and private and state industries.

### **Applicable Rules**

The competition will be held in compliance with the "Formula Student Rules 2025". Changes and additions specific to FSBk are located within this document and supersede the respective sections of the published "Formula Student Rules 2025" document. The FSBk Competition Handbook is to be considered part of the rules. In case of any contradiction between this document and "Formula Student Rules 2025", the FSBk rules are to be considered valid.



## **Competition Format & Organizer**

Formula Student Balkans 2025 (FSBk2025) will consist of two classes: Internal Combustion Vehicle (CV) Class and Electric Vehicle (EV) Class. Both classes can be identified as separate competitions with separated classifications.

The competition will be open to:

- 15 CV Class teams o Including 'Hybrid Vehicles'
- 15 EV Class teams o excluding Hydrogen Prototype teams
- 5 CV/EV Alumni class teams
- There will be no Driverless Class/Cup at FSBk2025

The competition organizer is "Asociatia Formula Student Balkans". Formula Student Balkans is a registered trade mark from "Asociatia Formula Student Balkans"

## **Competition Language**

The competition language is English.

## **Contact**

The official competition website is: [www.fsbalkans.ro](http://www.fsbalkans.ro)

Email: [contact@fsbalkans.ro](mailto:contact@fsbalkans.ro)

Phone number (only in case of emergency): +40770773098 / +40743977012

Social media:

- Instagram: @fsbalkans
- Facebook: Formula Student Balkans
- LinkedIn: Formula Student Balkans



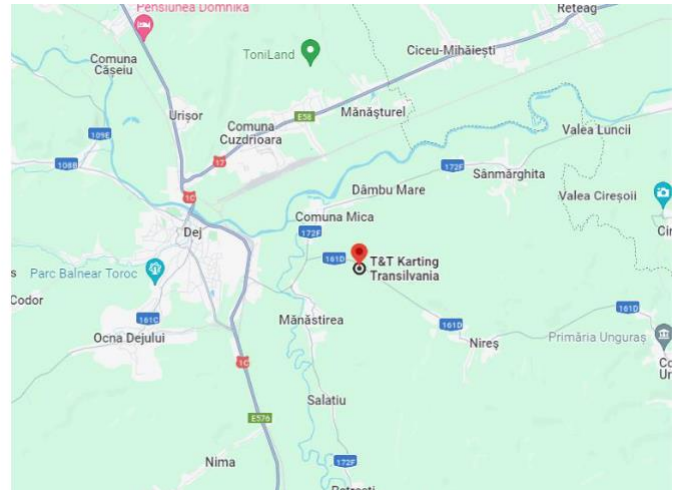
## Event Info

### Competition Dates and Place

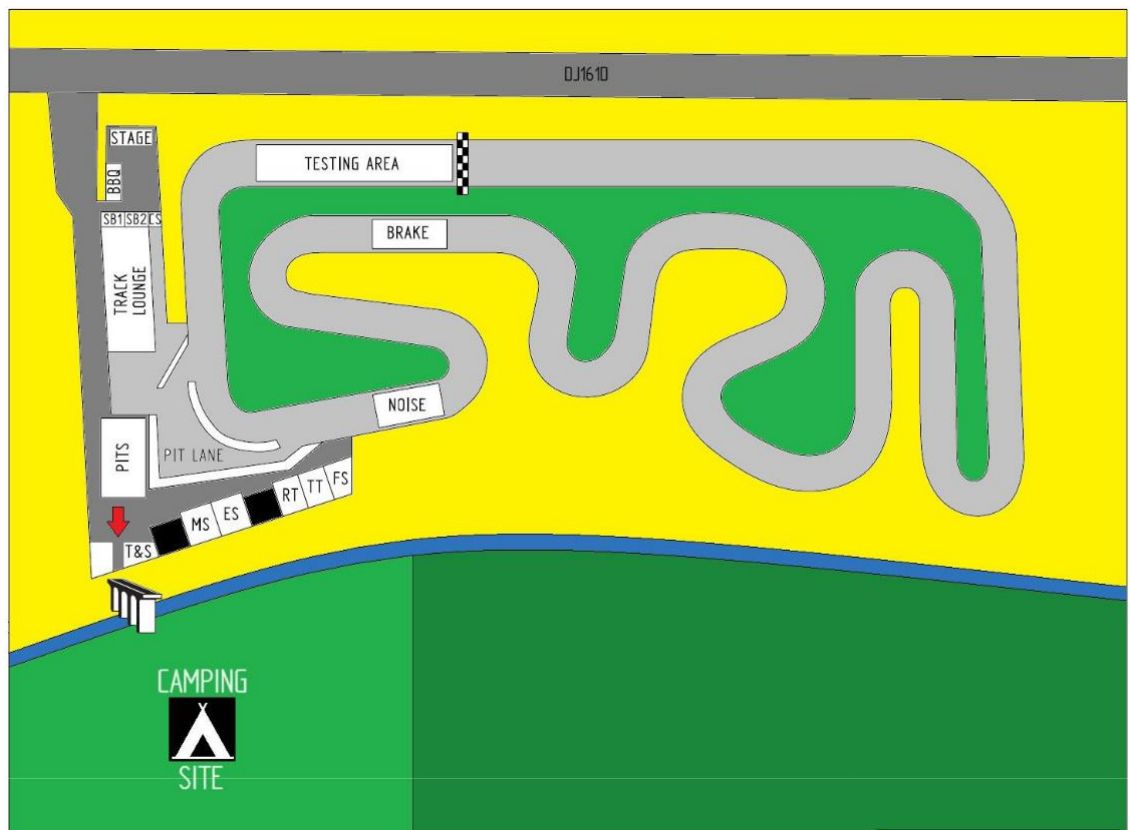
FSBk2025 will be held from Monday 28<sup>th</sup> of July until Saturday 02<sup>nd</sup> of August 2025, at the T&T Karting Transylvania Circuit near Dej, Romania. Please refer to the time schedule for detailed timing.

**Address:**

[T&T Karting Transylvania Circuit DJ161D, Nireş 407395](https://www.google.com/maps/place/T&T+Karting+Transylvania+Circuit+DJ161D,+Nireş+407395)



### Event Map



## **Team Members & Registration**

Team members must comply with section A4.2 of the FS rules. Team members with professional experience will be considered eligible to participate if they comply with all rules. Every team must fill out a Team Member Registration Form (TMRF) prior to the competition. A format will be available on the competition website.

All individuals are responsible for their own Health Insurance, the FSBk organization may perform random checks to ensure an individual has a valid health insurance.

## **Team Manager & Team Manager Meetings**

Each team is required to assign one person as team manager. The team manager must attend all team manager meetings. A team manager is responsible for the distribution of official competition information as presented in the team manager meetings to their team. A handout of a team manager meeting will be available on the website after the meeting. Team Managers are required to join a WhatsApp community for general competition announcements. Joining the community will be done on site, during registration.

## **Faculty Advisors**

For FSBk2025 Faculty Advisors must be registered as Team Members on the TMRF. Faculty Advisors may stay on the campsite with the team. Faculty Advisors may not participate in any events or perform any tasks related to the competition that can be done by students.

## **Official protests**

If any disputes shall arise, the teams can submit a written complaint at any time via [contact@fsbalkans.ro](mailto:contact@fsbalkans.ro) . Complaints must be submitted within 6 hours of the alleged dispute. The complaint will be processed within 24 hours of submission. If the formal protest is rejected, the team may surrender 15 points from the overall score.



## **Registration Procedure**

**In order to register for the competition every team must fulfil the following conditions:**

- Create a team account on the competition's website
- Have an active FSG team account
- Be REGISTERED for the FSG quiz
- Fill out the registration form on the **24<sup>th</sup> of January 2025 17:00CET**
- Upon completing the form, applicants will be ranked based on their submission time and the accuracy of the answers
- A proforma invoice will be sent to the first applicants
- Payment of the proforma invoice will be required by **31<sup>st</sup> of January 2025 17:00CET**. From **31<sup>st</sup> of January 2025 17:00CET** to **5<sup>th</sup> of February 2025 17:00CET**, registration will remain open to all applicants until all available slots are filled.
- Final results regarding the registered teams will be published on the **6<sup>th</sup> of February 2025 17:00CET**.

### **The Registration Form**

- Will be available on the **24<sup>th</sup> of January 2025 17:00CET on our website**
- Will contain information about the team and regarding the invoice details.
- Will contain Questions about common engineering knowledge and good understanding of the formula student rules
- Protests can be made from the 24<sup>th</sup> of January 2025 22:00 CET until the 25<sup>th</sup> of January 2025 22:00CET at [contact@fsbalkans.ro](mailto:contact@fsbalkans.ro)
- Final results and quiz answers will be published on the **27<sup>th</sup> of January 2025 12:00CET**.

### **Pit Garage & Campsite Deposit**

To ensure all teams leave their Pit Garage and Campsite spots in clean condition a cash deposit of €100, - must be made at arrival at the event site Track Lounge.

### **Data Loggers**

The data loggers used in the competition will be provided at the registration office. The data loggers used will be the same as the FS East Data Loggers



A refundable deposit will be collected for the Data Loggers (€100) – must be made at arrival at the event site Track Lounge.

## **Transponders**

The transponders used in the competition will be provided at the registration office. A refundable deposit will be collected for the transponder (€50) – must be made at arrival at the event site Track Lounge.

The transponder must be mounted **firmly** on the right side of the vehicle facing down without any obstruction to the ground **in front of the front axle**.



*Transponder Mount*

## **Dynamic Vests**

A refundable deposit will be collected for the dynamic vests (€25) – must be made at arrival at the event site Track Lounge. Each team will receive 4 dynamic vests and 2 media vests. The dynamic vests needed to be worn inside the dynamic area all time, except the driver if he is sitting inside the car. A team member with a media vest is not allowed to work on the car, push the car, carry items, other than the media equipment. Not conforming to these rules will be sanctioned with 20 penalty points from the overall score.

## **Competition fee**

**CV: 1850 EUR / EV: 2000 EUR** to be paid by the **31<sup>st</sup> of January 2025 17:00CET** or **5<sup>th</sup> of February 2025 17:00CET**, as described in the registration procedure. This amount covers registration and camping fees up to 25 team members. The fee for additional team members is 60 eur/person, VAT included. For international transfers we ask the teams to have a proof of payment ready in case of any delays.

**The bank details** will be given to every team when issuing the proforma invoices. After the payment is done, a final invoice will be issued.



Please make sure to **check the inbox** of the email provided when creating the team account (including the spam folder). Contact us via direct message (Instagram or LinkedIn) if you still encounter issues.

We understand it's difficult to fund the team and several competitions, so we urge you to contact us if you encounter any difficulties with paying the whole amount by the specified deadline.

## **Refund Policy**

In case the organizer cancels the event at any date before April 1<sup>st</sup> 2025, registration fees, campsite fees and deposits are 90% refundable.

In case the organizer cancels the event at any date after May 1<sup>st</sup> 2025 registration fees, campsite fees and deposits are 70% refundable.

In case a team cancels their participation for any reason, at any date, registration fees, campsite fees and deposits are not refundable.

## **Campsite**



All teams are required to use the on-site campsite facility. The campsite is located on the venue premises and allows for easy access to all venue facilities. The Campsite fee includes the use of campsite facilities such as power, drinking water, sinks, toilet facilities and shower facilities. A campsite pitch is approximately 20m x 20m.

Pitches will be assigned to teams by the event organization, there is no free choice or first-come-first-serve system.

**Earliest arrival:** July 27<sup>th</sup> 09:00 CEST

**Latest departure:** August 3<sup>rd</sup> 13:00 CEST

## **Campsite Rules & Safety**

No music speakers or devices with a total power over 100 W are allowed on the campsite after 23:00 time during the competition. Teams generating more noise may be excluded from the competition.

The use of motorcycles, quads, bicycles, scooters, skateboards or other similar mobility devices as well as self-propelled devices in general by team members and spectators is prohibited. Teams utilizing any of the listed mobility devices may be penalized.

No vehicles are allowed on the campsite, except for loading and unloading on arrival and departure days. Campervans or caravans are not allowed. Teams with vehicles on the campsite on other days may be penalized.

The use of alcohol is allowed on the campsite. The use of drugs is prohibited. The use of drugs may lead to immediate exclusion of the team from the competition.

Running Vehicles and working on vehicles on the campsite is strictly prohibited, except for the following operations:

- Cleaning Applying stickers/decals
- Changing rims and tyres
- Fitting and removing bodywork and aerodynamic devices

The use of power tools, welding, grinding, running of tractive systems or work on high voltage systems may lead to immediate exclusion of the team from the competition. Any other offense may lead to a penalty or immediate exclusion from the competition.

## **Event Site**

The event site consists of all paddock areas, including the static event area, the scrutineering area, the pit garages, all dynamic event locations including spectator areas, the media centre, the business plan presentation rooms and the track lounge.

## **Event Site Rules & Safety**

The use of motorcycles, quads, bicycles, scooters, skateboards or other similar mobility devices as well as self-propelled devices in general by team members and spectators is prohibited.

Teams utilizing any of the listed mobility devices may be penalized.

No vehicles are allowed on the event site, except for loading and unloading during pit construction and deconstruction times. Teams with vehicles on the event site outside of these timeslots may be penalized.

The use of alcohol or any other drug is strictly prohibited. Team members may be asked to perform a breath analysis if doubts arise. Running on the event site is prohibited!

## **Arriving at the venue & Parking**

Upon arriving at the venue, a team must proceed first to the Track Lounge to register the team. An official will guide you to the campsite from the Track Lounge, this process must be coordinated due to limited access roads on the campsite.

## **Drivers & Driver Registration**

Driver registration will take place at the Track Lounge. All drivers must have their government issued driver's license and national ID card as well as their student ID ready for inspection.

## **ESO Registration**

Electrical System Officer registration will take place at the Track Lounge. All officers must have their ESO certificate, national ID card as well as their student ID ready for inspection.



## **Pit Garages**

All teams will have access to a pit garage on the event site. A standard 20x20m pit tent is shared amongst the teams. Therefore, each team has approx. 5x5m of space available in their pit garage, to leave a 2m gap between pits in order to make a driveway. A list of pit garage allocations will be published before the event on the competition website

Pit Garages will only be available from **July 28<sup>th</sup> 16:00 CEST, until August 2<sup>nd</sup> 21:00 CEST.**

## **Team Manager Meetings**

Team Managers are required to attend Team Manager Meetings (TMM). Team Manager Meetings will take place in the Track Lounge. Please see the time schedule for exact times.

## **Driver Briefings**

Driver Briefings will take place in the Track Lounge. A separate briefing will be organized for each dynamic event. Please see the time schedule for exact times.

## **Event Photo**

All teams are required to attend the event photo. Final timing and instructions will be published before the event.

## **Live Streaming & Timing**

Live streaming will be available via YouTube.

All dynamic events will be live streamed. Live timing is available on the competition website.

## **Grandstand & Visitors**

Visitors must register at the Track Lounge. More information will follow closer to the event. Warnings & Penalties

Any violation of the rules may lead to a warning or penalty. Warnings can be issued in writing or verbally by event officials. Any penalties will be issued in writing and will be published publicly after the event.



## **Warnings & Penalties**

Any violation of the rules may lead to a warning or penalty. Warnings can be issued in writing or verbally by event officials. Any penalties will be issued in writing and will be published publicly after the event.

## **Waiver of Liability**

The team should bring a filled out Waiver of Liability, template available on the official website to the registration.

## **Food service**

A food truck will be available on the spot. Feel free to order some food there!  
A catering service will be available. We will provide a menu to order lunch for the next day. More information on the first team manager briefing!



## **General Rules**

### **Safety Rules for the competition Site**

#### **EMERGENCY**

In case of an EMERGENCY call for help by either finding an official with a radio or by calling 112 yourself!

#### **IN CASE OF FIRES (FUEL, OIL, PAPER, WOOD, ETC.)**

Help the injured people around the fire without risking your own health and wellbeing or try to leave the area and provide first aid if it's possible.

If an electric consumer is on fire, first try to cut off the power, without any risk to your safety.

If a car is on fire, try aiding the egress of the driver by spraying the area around the driver.

#### **IN CASE OF ACCUMULATOR FIRES**

Leave the area where the accumulator fire has started as soon as possible and keep at least 5 meters from the burning accumulator. An overheating or burning accumulator is extremely dangerous. Do not put yourself in danger by trying to put it out. Try providing first aid to any injured people if you can.

In case of electric shock - do NOT give the victim water or food.

Do not enter in contact with the fumes of the fire and avoid the ultra-hot debris and hot sparks that might fly towards you from the fire.

Wait for the ambulance and firefighters to arrive who will handle the situation.

#### **IN CASE OF ELECTRIC SHOCK**

Preferably, push the emergency buttons and wait until the TSAL is switched off, wait patiently because this may take 5 seconds to be switched off.

Talk to the victim and evaluate its health if that is possible.



Isolate yourself from the victim in case you must move the victim from the live contact by using dry gloves or multiple layers of cloth, cover potential contact patch with the HV isolation blanket.

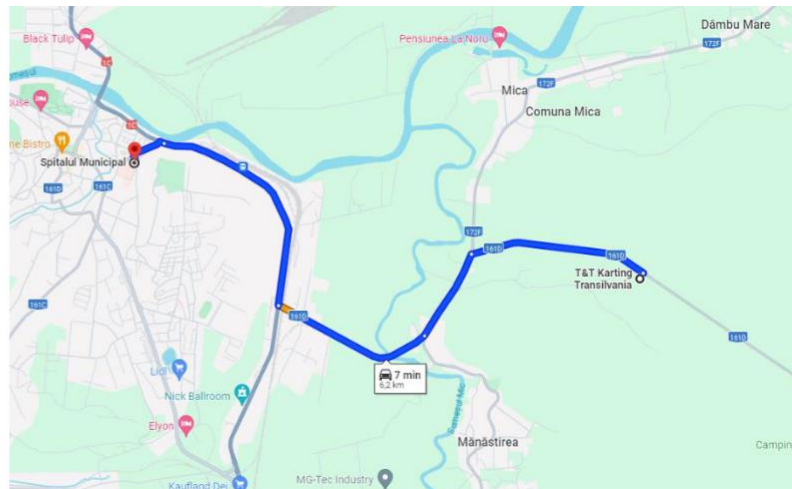
Be careful to not slip and fall during the handling of the victim.

Do not move the victim if spinal injuries might appear, only do it in case of imminent danger (no response, no pulse, no breathing), help the victim with artificial respiration in case of no breathing. Give CPR (only in case you have CPR training) in case of lack of pulse.

Keep the victim warm and comfortable and resting, monitoring status and breathing until help or the ambulance arrives.

### Nearest Hospital

Street 1 Mai 14-16, Dej 405200, România



**MOTORSPORT IS DANGEROUS**

**DURING THE EVENT DO NOT RUN IF THERE **ISN'T** IMMEDIATE THREAT TO THE SECURITY AND WELL-BEING OF THE PEOPLE IN THE EVENT AREA**



## Event Disciplines

The event is organized under the official [Formula Student Germany Rules V1.0](#)

## Document Deadlines

<b>Date</b>  <b>(yyyy/mm/dd)</b>	<b>Type</b>	<b>Class</b>	<b>Upload</b>  <b>Link</b>
<b>2025-03-07 13:00 CET</b>	Fuel Type Order (FTO)	CV	TBD
<b>2025-03-14 13:00 CET</b>	Impact Attenuator Data (IAD)	ALL	TBD
<b>2025-03-14 13:00 CET</b>	Structural Equivalency 3D Model (SE3D)	ALL	TBD
<b>2025-03-14 13:00 CET</b>	Structural Equivalency Spreadsheet (SES)	ALL	TBD
<b>2025-03-14 13:00 CET</b>	SES Approval (SESA)	ALL	TBD
<b>2025-03-28 13:00 CET</b>	Electrical System Form (ESF)	EV	TBD
<b>2025-03-28 13:00 CET</b>	Hybrid System Form (HSF)	CV (HY)	TBD
<b>2025-05-16 13:00 CET</b>	Business Plan Pitch Video (BPPV)	ALL	TBD
<b>2025-05-30 13:00 CET</b>	Design Spec Sheet (DSS)	ALL	TBD
<b>2025-05-30 13:00 CET</b>	Engineering Design Report (EDR)	ALL	TBD
<b>2025-06-27 13:00 CET</b>	Electrical System Officer Quali. (ESOQ)	EV	TBD
<b>2025-06-27 13:00 CET</b>	Cost Report Documents (CRD)	ALL	TBD
<b>2025-07-04 13:00 CET</b>	Vehicle Status Video (VSV)	ALL	TBD
<b>2025-07-04 13:00 CET</b>	Team Member Registration Form (TMRF)	ALL	TBD

Templates for all the documents can be found on the FSG website.

All documents will be uploaded via **the form on the official FSBk competition website**.

**Please also upload the HSF on [hybrid@fs-world.org](mailto:hybrid@fs-world.org)**





## Technical Inspection

### Technical Inspection Order

The Technical Inspection Order (TIO), or scrutineering queue is based on the order of submission of vehicles status videos. A complete schedule will be published prior to the event or after all VSVs have been submitted.

**CV Class:** TIO is only valid for the first attempt at mechanical scrutineering. If the order conflicts with the static event schedule you may redeem your place in the queue at a later moment of your choice.

**EV Class:** The TIO will be the basis for the assigning of the timeslots for Accumulator Inspection and Electrical Inspection.

**Hybrid Class:** The Technical Inspection Procedure for Hybrid cars is still subject to discussion. More information will follow.

**Alumni Cup Class:** The Technical Inspection Procedure for Hybrid cars is still subject to discussion. More information will follow.

### Technical Inspection Procedure

The technical inspection procedure will take place in the scrutineering area. Apart from Accumulator Inspection and Electrical Inspection, which use a system of timeslots, with rescrutineering timeslots, all inspection is based on a line-system without timeslots.

#### **CV Class:**

1. Mechanical Inspection, including pre-inspection
2. Driver Egress
3. Fuel
4. Tilt Test
5. Vehicle Weighing
6. Noise Test
7. Brake Test



**EV Class:**

1. Accumulator Inspection
2. Electrical Inspection
3. Mechanical Inspection, including pre-inspection
4. Driver Egress
5. Tilt Test & Vehicle Weighing
6. Rain Test
7. Brake Test

The Technical Inspection Procedure for Hybrid cars is still subject to discussion.



## **Static Events**

### **Business Plan Presentation Event**

The BPP event will be held according to section S1 of the 2025 FS Rules. A TV screen is available in each BPP room to use. Connection via HDMI cable.

Location: Static Bay 1&2

Deep Dive Topic: TBD approx. one month before the competition.

BPP Finals: TBD

### **Cost & Manufacturing Event**

Each team will have a back-to-back session for the Cost & Manufacturing and Engineering Design Event, with a 5-minute break in between to switch team members and equipment. Both the C&M and ED Event take place in the Static Event Area, which is located near the scrutineering area. A 5m x 5m space is provided for the team to present in. All walls are flexible material. A team should bring their own tape if they want to use the walls to hang any material.

Location: Static Bay 1&2

#### **Real Case**

A real case may be part of the C&M event and will be published before the CRD deadline.

C&M Finals: TBD

### **Engineering Design Event**

Each team will have a back-to-back session for the Cost & Manufacturing and Engineering Design Event, with a 5 minute break in between to switch team members and equipment. A 5m x 5m space is provided for the team to present in. All walls are flexible material. A team should bring their own tape if they want to use the walls to hang any material.

Location: Static Bay 1&2

ED Finals: TBD



## **Dynamic Events**

### **Driver Briefings**

All partaking drivers must attend the mandatory driver briefings. An online briefing may substitute the driver briefings.

### **Skid Pad Event**

Each team has four runs, driven by two drivers with two runs each.

$$SKIDPAD SCORE = 71.5 \left( \frac{\left( \frac{T_{max}}{T_{team}} \right)^2 - 1}{0.5625} \right)$$

### **Acceleration Event**

Each team has four runs, driven by two drivers with two runs each. The vehicle will be staged so that it breaks the timing beam after 0.30m of travel.

There will be two sessions of top 3 teams shootout. In the top 3 shootout, the team is allowed two more runs, with one of the drivers that run in acceleration event, the runs will not count as official runs.

The acceleration event will be held at night, after dusk. Teams are allowed to install additional lights to their cars, but it must be mounted on the car during the technical inspection.

$$ACCELERATION SCORE = 71.5 \left( \frac{\left( \frac{T_{max}}{T_{team}} \right)^2 - 1}{0.5} \right)$$



## **Autocross Event**

Each team has four runs, driven by two drivers with two runs each.

## **Endurance & Efficiency Event**

The Autocross finishing order will form the basis for the endurance running order. However, the running order creation can deviate from a speed-based approach to accommodate organizational needs. Officials may allow or require cars to run out of order if needed to finish the endurance event within the given time limits.

In addition to the running order, teams will be assigned a "ready-by" time in the published running order document. This is the earliest time the team may be required to run (i.e. enter the track). From this time, a team must be ready to enter the pre-inspection area.

Running out of order occurs when (1) all teams ranked before the team in the running order either ran or forfeit their run and (2) the teams' Ready-By time has passed. Running OOO will be penalized according to D9.2.1

A track map will be released prior to the competition.

25 points are awarded to every team that finishes endurance without DNF or DQ. The formula given in D7.8.4 will be used to calculate the additional endurance points, however the number "225" will be substituted by "325". The formula given in D7.9.6 will be used to calculate the efficiency score, however the number "75" will be substituted for "100".



## **Rule Exemptions and Alterations**

Due to the lack of autonomous events at FSBk2025, the scoring table and some rules are altered or void. In particular:

- A1.2.6 to A1.2.8: void
- A1.3: the scoring table is altered to:

Maximum Points	CV&EV	points
<b>Static Events</b>		
Business Plan Presentation	75	points
Cost and Manufacturing	100	points
Engineering Design	150	points
<b>Dynamic Events</b>		
Skidpad	75	points
Acceleration	75	points
Autocross	100	points
Endurance	325	points
Efficiency	100	points
Overall	1000	points

- CV1.2.4: void
- A4.1.1: no team will participate in DC
- A4.4: void
- A5.6: all points marked [DC only] are void
- A6.3.2: void
- T14: void
- T15: void
- CV1.2.2 to
- IN6: void - T14.7 may be inspected if autonomous system components are mounted.
- IN11.2: void
- S2.4.6: the Autonomous System is not considered a "system"



- S3: Autonomous System will not be considered in the Engineering Design Event but Autonomous System components may remain in the car.
- S3.7: Scoring table will be altered to exclude Autonomous Functionality.
- D1.1.1: In total, a minimum of four and a maximum of six drivers are allowed for each team.
- D2.2: void
- D2.3.8: void
- D2.4.1: There will be no practice track for vehicles in autonomous mode
- D2.5: void
- D2.6: void
- D2.7: void
- D2.8: void
- D4: No Driverless SkidPad Procedure, scoring table will be altered to Manual Procedure only
- D5: No Driverless Acceleration Procedure, scoring table will be altered to Manual Procedure only
- D6: No Driverless Autocross Procedure, scoring table will be altered to Manual Procedure only
- D8: void

**Event Management**



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