



# Competition Handbook

Revision 1.0.1  
Release Date: 2020-01-27

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## AT 1 Administrative Regulations

### AT 1.1 Formula Student Austria

Formula Student Austria is part of the Formula SAE Competition Series and open to entries with both conventional and electric powertrains.

This document contains the event specific rules and procedures for the Formula Student Austria Competition.

If you have any question regarding the Rules 2020:

- If you are registered for FSG, please use the FSG issue tracker <https://www.formulastudent.de/fsg/rules/faq/> - there are FSA officials monitoring this as well
- If you have any question regarding the FSA rules or are not registered at FSG, feel free to contact the rules committee under [rules@fsaustria.at](mailto:rules@fsaustria.at)

### AT 1.2 Formula Student Austria 2020 Rules

The Formula Student Austria (FSA) competition will comply with the ruleset known as “Rules 2020”. Changes and additions specific to FSA are located within this document, and supersede the respective sections of the published “Rules 2020” document.

The Formula Student Austria Competition Handbook is to be considered part of the rules.

In case of any contradiction between this document and “Rules 2020” the FSA rules are to be considered valid.

### AT 1.3 Competition Language

The competition language is English.

### AT 1.4 Competition Date and Location

Formula Student Austria 2020 takes place from Sunday, 2020-07-26 to Thursday, 2020-07-30 at the Red Bull Ring in Spielberg/Austria.

### AT 1.5 Competition Time

The Formula Student Austria official time:

From	Till	Time
2019-10-28	2020-03-28	CET
2020-03-29	2020-10-25	CEST

All dates are in the YYYY-MM-DD (ISO 8601) format.

### AT 1.6 Vehicle Classes and Scoring System

The event will be run with two classes – IC and electric – with all static and dynamic events being run together but scored separately. There will be no driverless (FSD) class. (Change of Rules2020\A 1.2.1)

### AT 1.7 Personal Transport

Use of small vehicles on-site is allowed but teams are reminded to use them responsibly, especially regarding pedestrian safety and loud noise.

### AT 1.8 Unofficial timing and telemetry equipment

No unofficial timing and telemetry equipment (e.g. IR Transmitters, radio extenders, etc.) is allowed inside the dynamic area. Exempt from this rule is the driver change/preparation area, where team members with dynamic passes are allowed to remain during the course of the dynamic events, if the equipment does not interfere with the conduct of the event.

## AT 2 Registration & Eligibility

### AT 2.1 Registration Date

The registration for FSA 2020 starts on Friday, 2020-01-31 at 1900 CET.  
Refer to the FSA website for details.

#### AT 2.1.1 Registration fee

Registration fee for Formula Student Austria is EUR 2.590 (two thousand five hundred and ninety) including USt (VAT).

This fee includes the registration of 20 team members and the camping fee for 10 team members. Payment is accepted only by bank transfer. Bank details will be sent to every successfully registered team by E-mail. Every team has to send a confirmation of the money transfer by e-mail. Payment is due within 7 days of successful registration. Failure to do so will result in the loss of your slot and your team being placed on the waiting list.

Registration fees are non-refundable. Camping fees are refundable in case of withdrawal or deregistration. The refund claim must be entered within one month of deregistration.

*Note: Faculty Advisors also count as team members and have to be registered as such.*

#### AT 2.1.2 Additional Team Members

Additional team members can be registered for EUR 35 (non-refundable) each until the TMD ([AT 3.1](#)). After the TMD the fee increases to EUR 70.

Payment is possible in cash at the on-site registration; please be sure to have the exact amount ready.

### AT 2.2 Registration Capacity and Waiting List

Registrations will be given out in the of the quiz results; afterwards in the order of submission. FSA will limit the number of entries to 58 (24 EV / 34 IC). After this limit is reached, additional entries will be placed on the waiting list and will eventually become a registered entry if another registered team redraws or is removed. Slots may be moved between classes at a later time (i.e. if a waiting list “runs out”)

#### AT 2.2.1 Slots

A certain number of slots at FSA 2020 are reserved. If a team fits more than one reserved slot it will take up the one listed higher up in this document.

Reserved slots will automatically be assigned to the respective teams. To allow for this, the team needs to be registered on the FSA website by the time the quiz starts. After this time the reservation expires.

#### AT 2.2.2 2019 Top Finishers

Three (3) slots in each class are reserved for the top finishers of FSA 201:

##### Combustion

- TU Graz (TU Graz Racing Team)
- UAS Graz (Joanneum Racing)
- UAS Ravensburg-Weingarten

##### Electric

- TU Munich
- Trondheim U
- Tallinn TU UAS

#### AT 2.2.3 Austrian Teams

Five (5) slots are reserved for Austrian entries

##### Combustion

- UAS Graz (Joanneum Racing)
- UAS Vienna (OS.car Racing Team)

##### Electric

- TU Graz (TU Graz Racing Team)
- TU Vienna (TUW Racing)
- Uni Innsbruck (Campus Tirol Motorsport)

#### AT 2.2.4 Wildcard slots

Up to three (3) slots, independent of class, will be available as “wildcard” slots. Wildcard slots will be assigned by FSA based on the “wildcard application” which has to be completed before the registration starts. See the FSA website for details.

## AT 3 Dates & Documents

Note: Some of these Details might be subject to change to react to changes and requirements by other events in the FSAE series. Check <https://fsaustria.at/fsa-2020/rules/> regularly for updates

### AT 3.1 Submission Dates Summary

Document	IC	EV	Date	Document Template
Fuel Type	•		2020-01-31 13:00	n/a
ESF		•	2020-03-13 13:00	FSG online submission
SES/SE3D	•	•	2020-03-20 13:00	Rules 2020
IAD	•	•	2020-03-20 13:00	FSG
EDR	•	•	2020-06-05 13:00	FSAE
DSS	•	•	2020-06-05 13:00	FSA
BP Pitch Video	•	•	2020-06-05 13:00	n/a
Team Member Designation	•	•	2020-06-05 13:00	n/a
Vehicle Status Video	•	•	2020-06-26 13:00	n/a
Event Program Team Page	•	•	2020-06-26 13:00	FSA
Cost Report Documents	•	•	2020-07-10 13:00	FSG online submission

Documents not listed in this table are not required.

### AT 3.2 Cost Report Documents

The BOM & CBOM is to be created using the FSG CR tool. The whole CR is then to be exported using the corresponding “PDF Export” function in the CR tool.

The exported PDF should be zipped together with the Cost Report Explanation file (CREF) and Supporting Material (SM) (e.g. drawings)

There are no rules regarding the style of the CREF other than it should be a comprehensive explanation of the assumptions and calculations that were used to derive the part/process costs used in the CBOM.

The file format of the CREF shall be PDF.

The ZIP archive containing all documents must be uploaded no later than the deadline listed in AT 3.1

The submission should look like this:

- [ZIP archive]
  - └ [C/D/BOM] PDF exported from FSG
  - └ [CREF] Cost Report Explanation File, PDF
  - └ [SM] Supporting Material, PDF

#### AT 3.2.1 CBOM

The CBOM must be created for the “Electrical System”.

#### AT 3.2.2 DBOM

The DBOM must be created for the “Suspension System”.

### AT 3.3 ESF

The ESF has to be completed using the FSG online ESF tool.

### AT 3.4 Health Insurance Certificate (change of Rules 2020\A4.6)

Requirement waived. See <https://fsaustria.at/fsa-2014/hic-dl/> for details

### AT 3.5 FSG Online submissions

For certain documents the use of online tools provided by FSG (Formula Student Germany) is required.

To use these tools, a team has to be registered for the current FSG event. For teams not attending both FSA and FSG, a registration for the end of the FSG waiting list is sufficient and no payment is required.

## AT 4 Technical Requirements

### AT 4.1 Ready-to-Drive Sound (Change of Rules 2020\EV4.12.3)

Sound-type requirement waived

### AT 4.2 Accumulator Temperature Monitoring Device (change of Rules 2020\EV5.8.5, IN3.1.2)

The logging device will not be installed at FSA

### AT 4.3 Technical Inspection Sticker

The sticker will be 150x100 mm (WxH). A suitable spot shall be reserved on the upward-facing bodywork between the front roll hoop and the front bulkhead.

## AT 5 Static Events

### AT 5.1 Presentation equipment

The presentation equipment provided will be either a large-screen TV or a data projector. Available connections will be VGA and/or HDMI, depending on the equipment. If audio playback is required then the team has to provide the equipment (speakers). The presentation rooms will be made available for inspection and testing before the BPP event starts.

### AT 5.2 Business Plan Scoring Formula (change of Rules 2020\S1.4.4, S1.4.5)

The scoring for the non-finalist is calculated as follows:

$$\text{PRESENTATION SCORE} = 71 \cdot \frac{P_{\text{your}}}{P_{\text{min-F}}}$$

Where:

“P<sub>your</sub>” is the score awarded to your team by the business judges in the initial judging

“P<sub>min-F</sub>” is the lowest score awarded to any team participating in the finals in the initial judging

The scoring of the BPP finalists will vary from 75 to highest non-finalist score and is scored immediately after the BPP finals by all judges.

Possible penalties from Rules 2020\A 5 could affect the final scoring.

*Note: The intent of these changes is to avoid skewing the initial points distribution in events with non-uniform points distribution (more likely with fewer participants)*

### AT 5.3 Engineering Design Judging Criteria (change of Rules 2020\S3.8.2)

Rules 2020\Table6 is void. The Judging Criteria for FS Austria are

- |                              |                        |
|------------------------------|------------------------|
| • Design Report              |                        |
| • Design Approach            |                        |
| • Knowledge/Understanding    |                        |
| • Execution/Build            |                        |
| • Use of Resources           |                        |
| • Creativity/Ingenuity       |                        |
| • Presentation               |                        |
| • Product Design & Style     |                        |
| • Documentation & Management |                        |
| • Innovation                 |                        |
|                              | • Suspension           |
|                              | • Frame & Body         |
|                              | • Aero                 |
|                              | • Drivetrain (EV/IC)   |
|                              | • Elec(tro)nic Systems |
|                              | • Ergonomics           |

for 10 (intermediate) points each. The final design score will be calculated from the intermediate score through normalization and scaling.

## AT 6 Dynamic Events

### AT 6.1 Skid Pad Track Conditions

The Skid Pad track conditions will not be artificially altered.

### AT 6.2 Acceleration Staging (Change of Rules 2020\D5.2.3)

The vehicle will be staged so that it breaks the timing beam after 0.30m of travel.

### AT 6.3 Definition of a valid run

A valid run is registered by completing the required event distance, starting by breaking the first timing beam and ending by breaking the (final) timing beam (the required number of times).

*Note: DOO and OC penalties apply during the whole time the car travels under its own power - as per D9.1.4.*

*DNF per Rule D9.1.15 can only be registered during a run*

### AT 6.4 Endurance Running Order (supplement to Rules2020\D7.3)

#### AT 6.4.1 Running order goal - Supplement to D7.3.1

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.

#### AT 6.4.2 Ready-by Time

Each team 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).

#### AT 6.4.3 Out-of-order Running (OOO)

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

#### AT 6.4.4 Running at a later slot

All teams running out of order are required to inform the officials of their intent to run at a later time before the last car in the running order has entered the track. Failure to do so will result in a DNA for the run. There is no guarantee that a later slot will actually be available within the given time constraints.

#### AT 6.4.5 OOO Running Order

After the last car of the running order finishes endurance, all teams registered to run out of order are required to be in the endurance queue. Failure to do so will result in a DNA for the run. Teams will start according to the original running order

### AT 6.5 Clarification of “Part” for Rules2020\IN12.1.6

This rule will generally not be applied to “parts” such as minor amounts of tapes and adhesive film as well as insignificant parts broken off due to collisions with cones or the track. (i.e. small part of a front wing endplate)

## AT 7 Document History

### VersionChanges

Date	Version	comments/changes
2020-01-27	1.0.0	Initial Version
2020-01-27	1.0.1	Rebuilt TOC, update to <a href="#">AT2.2.1</a> , Weekday fixed in <a href="#">AT1.4</a>