

STATIC EVENT RULES



FORMULA EAST
STUDENT
WHO IS READY?

VERSION 1.1
RELEASE DATE: 2ND MAY 2018

#FSEAST2018 #STATICRULES

S1. INTRODUCTION

Formula Student East® (hereafter “FS East®”) is a FSAE style Formula Student engineering competition held in Hungary, organised by the Association of Automotive Engineers (formerly Engineers for the Automotive Higher Education Association) from 2016. Formula Student East will allow to participate vehicles with conventional internal combustion engine (gasoline or E85 fuelled) and electric powertrain.

Furthermore Formula Student East welcome the participation of driverless vehicles (both with internal combustion or electric powertrain).

The three categories will be evaluated separately:

- Internal Combustion Vehicles (hereafter CV)
- Electric Vehicles (hereafter EV)
- Driverless Vehicles (hereafter DV)

This document contains the FS East Static Events rules.

These specific rules are additions to the Formula Student Rules 2018 document (hereafter “Rules 2018”) published by [Formula Student Germany](#). In case of a conflict between the Rules 2018 and the 2018 FS East rules, the 2018 FS East rules supersede the Rules 2018.

All the deadlines for each document submission can be found in the FS East Documentation Rules 2018.

S2. STATIC EVENTS

During all static events (both initial and final judging) a team member may participate only on that team’s event, which she/he is registered in. Universities participating with multiple vehicles are considered as separate, individual teams and each participant must be a member of one and only one team. Active participation on other teams’ static event will be penalized. The static events will be held parallelly, therefore it might happen that different teams from the same university have their static events at the same time slot.

S2.1 BUSINESS PLAN PRESENTATION

S2.1.1 EXECUTIVE SUMMARY

Judging will begin with the inspection and analysis of the priorly submitted Executive Summary, which is the principal document of the Business Plan Presentation.

The Executive Summary must be uploaded in Adobe Acrobat® format (*.pdf file) to the FS East website no later than the given deadline. The executive summary must not exceed one (1) page. The team name and car number for exact identification must be written in it.

SPECIFIC FS EAST RULE ADDITION

In the summary one (1) outstanding, innovative business model idea (why is your BP better?) and one (1) outstanding car technical feature have to be listed with the anticipated production costs of the car.

Maximum 5 points can be deducted from your final Business Plan Presentation Score, if:

- Team name and/or Car number is missing: -1 or -2 points
- One innovative business model idea and/or one technical highlights are missing: -1 or -2 points
- Vehicle cost is missing: -1 point

In case the Executive Summary is not compliant with the rules the received penalty points will be deducted from the final BPP score.

Penalty points remain valid even if resubmission is asked until the Executive Summary can be accepted.

S2.1.2 BUSINESS PLAN PRESENTATION WRITTEN COPY

SPECIFIC FS EAST RULE ADDITION

All teams must submit their printed out version of their presentation no later than the given deadline. Changes cannot be made to the printed out version, if needed only the color (e.g. from colored to grayscale) can be changed! When preparing the presentation, please think about the quality of the written copy as well as the projected digital version.

S2.1.3 DEEP DIVE TOPIC

All teams will receive the same specific Deep Dive Topic from the organizer's prior to the competition, which has to be part of the ten minute presentation.

The topic with further information will be published on the FS East website later.

S2.1.4 DATA PROJECTION EQUIPMENT

Plasma display/LCD Monitors will be provided by FS East. These displays will have VGA+HDMI Input Connectors. The organizers will not provide any other presentation equipment (e.g. laptop). Teams planning to use other equipments as a part of their presentation, are responsible for bringing, or otherwise arranging for their own equipment. All teams must take care that only Schuko sockets (CEE 7/3) will be provided.

S2.1.5 JUDGING SEQUENCE

At FS East Business Plan Presentation Judging will consist of two parts for CV and EV teams (evaluated separately):

1. Initial judging of all teams
2. Final judging of top teams (the number of top teams will be decided by judges on-site)

Teams participating in the Business Plan Presentation Final will be informed about their participation during the event. DV teams will be evaluated only based on the initial judging. Final judging will not be held for them.

S2.1.6 BUSINESS PLAN PRESENTATION SCORING FORMULA

There is a maximum of seventy-five (75) points from the FS East Business Plan Presentation Judging Score Sheet. The scoring of the event is based on the average of the Judges' score-sheets.

NOTE: If rounding - down or up - the average is needed, it will be decided by Judges in the given Judge Group on spot, before the Static Day ends.

NON-FINALIST

$$\text{BPP SCORE} = (\text{PYOUR}/\text{PMAX}) \times (75 - \text{N})$$

Where:

"P_{MAX}" is the highest score awarded to any team in the given category not participating in the finals

"P_{YOUR}" is the score awarded to your team

"n" is the number of finalists in the given category (n=0 for the DV category)

FINALISTS

$$\text{BPP SCORE} = 75 - (\text{N} - 1)$$

Where:

"n" is the place achieved in the Business Plan Presentation Final

It is intended that the scores will range from near zero (0) to seventy-five (75) to provide good separation.

NOTE: All categories as mentioned in Rules 2018 will be evaluated, but the score-sheet structure and the content of it will differ from Rules 2018, as it will be prepared by the FS East organizers prior to the Event.

S2.2 COST AND MANUFACTURING EVENT

S2.2.1 COST AND MANUFACTURING EVENT PROCEDURE

During the competition, a discussion with the judges will take place in the team's pit around the vehicle. The discussion is split into two parts:

PART 1 | "BILL OF MATERIALS (BOM) DISCUSSION"

A discussion to evaluate the team's ability to prepare an accurate engineering and manufacturing BOM for the complete vehicle.

The team must prove the following:

- The specification of the vehicle in the Cost Report Documents (CRD) accurately reflects the vehicle brought to the competition
- The costs within the Costed Bill of Materials (CBOM) part of the BOM are correct and realistic.
- The manufacturing feasibility of the vehicle.

PART 2 | "COST UNDERSTANDING"

A discussion to evaluate the general cost and manufacturing knowledge of the team.

The following topics might be judged:

- Differences between prototype and mass production
- Resource and cost planning
- Financial and production risk management
- Make or buy decisions
- Environmental influence of the vehicle production
- Effectiveness of financial planning

S2.2.2 COST REPORT DOCUMENTS

The Cost Report Documents (CRD) consist of the following documents:

- Bill of Materials (BOM) including Costed Bill of Materials (CBOM)
- Supporting Material
- Cost Explanation File

All CRD documents must be printed by the team and brought as a hard copy to the Event Control on the 19th of July. Two hard copies or a splittable folder of the CRD is allowed to use at the discussion.

Without submitted electronic or written copy any of the Cost Report Documents a team will not be allowed to take part in the corresponding events (Discussion and Cost Understanding) and will receive a score of 0 (zero) for the Cost and Manufacturing Event.

S.2.2.3 ELECTRONIC COPY

Prior to the competition, the Cost Report Documents (CRD) must be submitted to the competition website no later than the given deadline.

For the creation of the BOM, the teams are expected to use the CBOM tool available on the www.formulastudent.de website. This tool provides a printable *.pdf version of the BOM.

All the three (3) CRD should be uploaded as separate documents in *.pdf file. For submission all the CRD files must be compressed into one (1) *.zip file.

Filename nomenclature:

- CAR#_CRD.zip (e.g. 01_CRD.zip) for the zip archive.
- CAR#_BOM.pdf (e.g. 01_BOM.pdf) for the Bill of Materials.
- CAR#_SUP_MAT.pdf (e.g. 01_SUP_MAT.pdf) for Supporting Material.
- CAR#_COST_EXPL.pdf (e.g. 01_COST_EXPL.pdf) for the Cost Explanation.

NOTE:

- Incomplete submissions (e.g. only the BOM) will be counted as not submitted. Only with all three (3) parts accomplished the submission of the Cost Report is complete. A team can decide not to submit a Supporting Material at the price of losing points, in which case they should upload an empty *.pdf file with the correct nomenclature.
- Failure to meet the nomenclature requirements results in a maximum of minus two (-2) points.
- An addendum for the CRD is not possible and changes will not be permitted after the given upload deadline.

S2.2.4 WRITTEN COPY

The written copies must be identical to the electronic copies (the full report). The written copy must be presented during the discussion part of the Cost and Manufacturing Event. The hard copy must be identical to the uploaded version, otherwise five (5) penalty points will be deducted from the team's Cost and Manufacturing Event score.

All CRD Written Copies must be handed in one or more ring binders, labelled as follows:

FORMULA EAST STUDENT	
Cost Report Documents Written Copy	
University name:	xxxxxxx
Team name:	xxxxxxx
FS East Car number:	xxx

Do not send the Written Copy by mail; it must be submitted at the FS East Event Control no later than the given deadline.

S2.2.5 COSTED BILL OF MATERIALS (CBOM)

The chosen system that must be submitted for a CBOM at FS East 2018 is "Chassis and Body".

S2.2.6 SCORING FORMULA

The overall Cost and Manufacturing Event maximum scoring is 100 points.

5	Format and Accuracy of Documents
5	Knowledge of Documents and Vehicle
20	Content and Completeness of the BOM
20	Realism of the CBOM
50	Cost understanding

S2.2.7 FINAL REVISION

After the initial evaluation the judges will review all cost reports and given scores. In case of debatable/questionable situations the final decision falls within the competence of the Cost and Manufacturing Event Leader. The same rule applies in case of complaints.

S2.3 ENGINEERING DESIGN EVENT

S2.3.1 JUDGING SEQUENCE

At FS East Engineering Design Judging will consist of two parts for CV and EV teams (evaluated separately):

- Initial judging of all teams
- Final judging of top teams (the number of top teams will be decided by judges on-site)

Teams participating in the Engineering Design Final will be informed about their participation during the event. DV teams will be evaluated only based on the initial judging. Final judging will not be held for them.

S2.3.2 ENGINEERING DESIGN DOCUMENTS

The Engineering Design Documents consist of the following documents:

- Engineering Design Report (EDR)
- [DV only] Autonomous Design Report (ADR)
- Design Spec Sheet (DSS)

These documents must be uploaded to the FS East website no later than the given deadline.

Without the successful submission of all documents (2 for CV and EV, 3 for DV) a team will not be allowed to take part in the Engineering Design Event and will be given a score of zero (0) for the whole event. The submission is considered to be successful if the organizers have checked if the documents fulfill the formatting requirements and they have accepted them. In case of formatting and naming errors in the documents penalty can be applied up to a maximum of -10 (minus ten) points for CV/EV and -20 (minus twenty) points for DV, which will be deducted from the Engineering Design Score after the Engineering Design Final.

Filename nomenclature:

- CAR#_EDR.pdf (e.g. 01_EDR.pdf) for the Engineering Design Report.
 - CAR#_DSS.pdf (e.g. 01_DSS.pdf) for the Design Spec Sheet.
- [DV only]
- CAR#_ADR.pdf (e.g. 01_ADR.pdf) for the Autonomous Design Report.

S2.3.3 ENGINEERING DESIGN REPORT (EDR)

The Engineering Design Report must be submitted in a single Adobe Acrobat® (*.pdf) file. The documents must be prepared according to the Rules 2018 Article S3.2.

The EDR **must not exceed eight pages**, consisting of **not more than five pages of content** (text, which may include pictures and graphs) and **three pages of drawings**. The three EDR drawings (no renderings) must show the vehicle from the front, the top and the side. Each drawing must appear on a separate page. Pay attention to the quality of the drawings. For further formatting directives see Rules 2018 Articles S3.2.2 - S3.2.8.

The size of the document must not exceed five megabytes (5MB). A properly sized document will be much smaller than five megabytes in file size. Please ensure that graphs and photos within the Acrobat file are of an appropriate resolution.

S2.3.4 [DV ONLY] AUTONOMOUS DESIGN REPORT (ADR)

The Autonomous Design Report must be submitted in a single Adobe Acrobat® (*.pdf) file. The documents must be prepared according to the Rules 2018 Article S3.4.

The ADR must be written as a scientific paper and must not exceed five pages. For further formatting directives see Rules 2018 Articles S3.4.4 - S3.4.6.

The size of the document must not exceed five megabytes (5MB). A properly sized document will be much smaller than five megabytes in file size. Please ensure that graphs and photos within the Acrobat file are of an appropriate resolution.

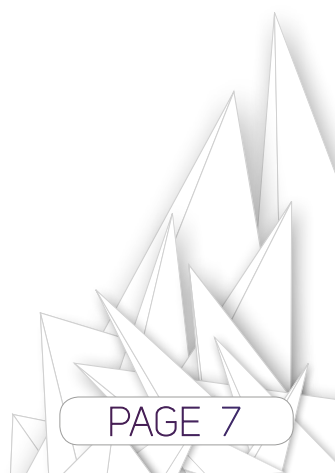
S2.3.5 ENGINEERING DESIGN SPEC SHEET (DSS)

The Design Spec Sheet must be submitted in a single Adobe Acrobat® (*.pdf) file. The FS East DSS template and further information will be published on the FS East website later. The template must not be altered or reformatted prior the submission. In the DSS metric units must be used only.

S2.3.6 ENGINEERING DESIGN SCORING

The overall Engineering Design Event maximum scoring is 150 points for CV/EV and 325 points for DV.

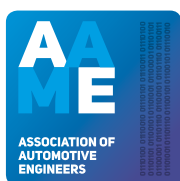
NOTE: All categories as mentioned in Rules 2018 will be evaluated, but the score-sheet structure and the content of it will differ from Rules 2018, as it will be prepared by the FS East organisers prior to the Event.





CHANGELOG

Version	Date	Modification	Page
1.0.0	18th January 2018	Initial release	-
1.1	2nd May 2018	S2.1.6 BPP Scoring - minor comment S2.2.5 CBOM subject announced S2.3.5 DSS - the number of pages will be given by the template, thus it is not specified	3,5,6



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