FORMULA STUDENT ONLINE

GENERAL RULES
Unsportsmanlike conduct

Be respectful. Harassment and abuse are never tolerated. If you are in a situation that makes you uncomfortable at the event, if the event itself is creating an unsafe or inappropriate environment, or if interacting with an official or event organizer makes you uncomfortable, please report it to one of our board members.

Harassment includes but is not limited to offensive verbal or written comments related to gender, age, sexual orientation, disability, physical appearance, body size, race, religion, social class, economic status, veteran status, sexual images, deliberate intimidation, stalking, following, harassing photography or recording, sustained disruption of talks or other events, inappropriate physical contact, and unwelcome sexual attention. If what you're doing is making someone feel uncomfortable, that counts as harassment and is enough reason to stop doing it.

Participants asked to stop any harassing behavior are expected to comply immediately.

If a participant engages in harassing behavior, FSOnline may take any action it deems appropriate, including warning the offender or expulsion from the event with no eligibility for refund of any type.

Causing any intended harm in the simulators during the simulation events (Virtual DV Event and Dynamic Event) may result exclusion of the team from the event.

1. General Rules

1.1.   The official communication channel for any event related questions is hello@formulastudentonline.com.
1.2.   Not showing up on the online events is considered as DNF. There is a 5 minute window after the deadline to cover the technical issues.
1.3.   Any attempt to compromise the IT infrastructure (involving any tools related to the FS Online event, e.g. driverless simulator, or submission system) of the event will result in immediate disqualification.
1.4.   If a participant engages in harassing behavior, FSOnline may take any action it deems appropriate, including warning the offender or expulsion from the event with no eligibility for refund of any type.
1.5.   If category specific rules are conflicting with the general rules, the rules with smaller scope will take effect.
1.6.   Harassment includes but is not limited to offensive verbal or written comments related to gender, age, sexual orientation, disability, physical appearance, body size, race, religion, social class, economic status, veteran status, sexual images, deliberate intimidation, stalking, following, harassing photography or recording, sustained disruption of talks or other events, inappropriate physical contact, and unwelcome sexual attention.

2. Preparation Period

2.1.   Late submission of any material to be evaluated is considered as DNF (only from the specific event), without penalty point system.
2.2.   Video submission requirements:

2.2.1.   Every video has to have the Team's name and logo in the top right corner, covering maximum 15% of the area of the screen.

2.2.2.   The videos shall have at least 720p resolution and 30 fps frame rate.

2.2.3.   Presented data and text shall be clearly readable.

2.2.4.   The video name shall follow the following format:

CAR#_TEAMNAME_SHORTEVENTNAME (e.g. 01_Team FSO_VEDE).

Event's name	Short version
Virtual Engineering Design Event	VEDE
Virtual Business Plan Presentation Event	VBPPE
Fun Unrelated Community Content (Fun activities)	FUCC

2.2.5.   Screen recordings and screen captures are permitted.

2.2.6.   Live action shots are not necessary.

2.2.7.   The submissions will only be published with the teams explicit permission.

2.2.8.   The quality of the presentation in the video submissions may influence the judging.

2.2.9.   The speech and voiceover has to be in English and clearly audible.

2.2.10. In the video submissions the abuse of any third party copyright is strictly prohibited. This includes any parts of video or music usage.

2.2.11. Videos shall be uploaded on *youtube.com* or *vimeo.com*. The video does not have to be public, but the link shall be uploaded on the FSOnline platform using the "EDE Videos Submission Template [VEHICLE CLASS]" document (avalable at www.formulastudentonline.com) and shall not be modified after submission.

2.2.12. Not working video links are considered as no submission.

2.2.13. Responsible contacts shall be displayed in the end of the video and shall be in the description of the video as well.

2.2.14. Violating Rule 1.6 leads to immediate cut of the video and audio connection and disqualification of the team.

3. On-line event

3.1.   During the live stream the abuse of any third party copyright is strictly prohibited. This includes any parts of video or music usage.

3.2.   A test call will be initiated before the online event with each finalist team, or teams involved in the live event. Participation on the test is the team's responsibility.

3.3.   The used video conference platform will be announced to the teams prior to the event.

3.4.   In case of connection problems, reconnection is allowed within 2 minutes.

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3.5. Each team shall contact the live event, with up to two user video feeds, and one extra dedicated video sharing feed for presentations.

3.6. Violating Rule 1.6 leads to immediate cut of the video and audio connection and disqualification of the team.

4. Scoring and Awards

4.1. All three categories (EV, CV, DV) will be evaluated separately.

4.2. Total Scoring of the Event

	EV and CV Teams (Total 1000 points)	DV Teams (Total 1250 points)
Static - Engineering Design Event	500	500
Static - Business Plan Presentation Event	250	250
Static - Concept Design Challenge	50	50
Simulator event	150	-
Virtual Driverless Event	-	400
Fun Activities	50	50

4.3. Awards

    4.3.1. 100% discount from the Registration fee from FSN and FS East 2021

        4.3.1.1. The discount will be available for the TOP 3 in the CV and EV and for the First team in DV category (FS East Only)

        4.3.1.2. Each team can choose between FS East, FSN or 50-50% discount from each

    4.3.2. TOP ⅓ will be preregistered to FS East and FSN priority

        4.3.2.1. The first third in each category will be pre registered.

        4.3.2.2. In each category there will be at least 2 times more slots upon the pre registered slots.

    4.3.3. TOP 5 Teams will get scrutineering priority

        4.3.3.1. The top 5 Teams will be called for scrutineering first on FS East 2021 and FSN 2021.

        4.3.3.2. If the team will not be available on the call, they have to accept other teams will be called in thor slots.

        4.3.3.3. On the first day of scrutineering this 5 team in each category will have a priority queue.

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STATIC RULES

1. Virtual Engineering Design Objective

1.1. The concept of the virtual engineering design event is to evaluate the student's engineering process and effort that went into the design of a vehicle, meeting the intent of the competition.

1.2. Data and/or graphs related to testing and experimental validation won't be asked as part of the virtual engineering design event. However, simulation results, calculations, validation plans, etc. will be evaluated

2. Engineering Design Documents

2.1. The Engineering Design Documents consist of the following documents:
- Engineering Design Report (EDR)
- [DV only] Autonomous Design Report (ADR)
- Design Spec Sheet (DSS)

2.2. The documents must be uploaded to the competition website no later than the given deadline.

2.3. Filename nomenclature:
- CAR#_EDR.pdf (e.g. 01_EDR.pdf) for the EDR;
- CAR#_ADR.pdf (e.g. 01_ADR.pdf) for the ADR [DV only];
- CAR#_DSS.pdf (e.g. 01_DSS.pdf) for the DSS.

3. Engineering Design Report (EDR)

3.1. The EDR should contain a brief description of the overall vehicle with a review and derivation of the team's design objectives.

3.2. Data and/or graphs related to testing and experimental validation must not be included in the EDR. Any other information to scope, explain or highlight design features, concepts, methods or objectives to express the value of the vehicle to the judges shall be included at the teams' discretion.

3.3. The EDR must not exceed eighteen (18) pages, consisting of not more than fifteen (15) pages of content (text, which may include pictures, graphs, tables, etc.) and three (3) pages of drawings.

3.4. The three (3) EDR drawings (no renderings) must show the vehicle from the front, the top and the side. Each drawing must appear on a separate page.

3.5. Any measures to facilitate reviewing the drawings (e.g. measurements, details, colors) may be utilized at the teams' discretion.

3.6. Any portions of the EDR that exceed fifteen (15) pages of content and/or three (3) pages of drawings will not be evaluated.

3.7. If included, cover sheets and tables of contents will count as text pages.

3.8. The EDR will be used to sort the teams into appropriate design queues based on the quality of its review.

3.9. The EDR must be submitted online on the competition website no later than the given deadline.

3.10. The EDR must be submitted in a single Adobe Acrobat® (*.pdf) file.

4. [DV only] Autonomous Design Report (ADR)

4.1. The ADR should contain a description of the autonomous system with a review and derivation of the team's design objectives. Any information to scope, explain or highlight design features, concepts, methods or objectives to express the value and performance of the autonomous system to the judges shall be included at the team's discretion.

4.2. Evidence of information mentioned in the ADR should be presented in the Engineering Design Video Demonstrations.

4.3. The ADR must not exceed fifteen (15) pages of content (text, which may include pictures and graphs).

4.4. Any portions of the ADR that exceed fifteen (15) pages of content will not be evaluated.

4.5. The ADR must be written as a scientific paper.

4.6. The ADR will be used to sort the teams into appropriate design queues, based on the quality of its review.

4.7. The ADR must be submitted online on the competition website no later than the given deadline.

4.8. The ADR must be submitted in a single Adobe Acrobat® (*.pdf) file.

5. Design Spec Sheet (DSS)

5.1. The DSS template will be published at the competition website. The template must not be altered or reformatted prior to the submission.
5.2. A properly filled out DSS should be 6 pages long for CV and EV categories, and 7 pages long for DV category.
5.3. In the DSS metric units must be used only.
5.4. The DSS must be submitted online on the competition website no later than the given deadline.
5.5. The DSS must be submitted in a single Adobe Acrobat® (*.pdf) file.

6. Engineering Design Video Presentations/ Demonstrations

6.1. A video presentation about the team and this year's objectives shall be submitted.
6.2. Video presentation must be no longer than ten (10) minutes. There isn't any file size limitation.
6.3. Video demonstrations about each specific design area shall be submitted. Comprehensive information regarding the content and length of the videos to be submitted can be found in Table 1 for CV and EV teams and Table 2 for DV teams.
6.4. Video demonstrations must be no longer than twenty (20) minutes. There isn't any file size limitation.
6.5. Both video presentation and demonstrations shall be submitted by x1.0 speed.
6.6. The number of team members presenting is up to the teams to decide.
6.7. Data and/or graphs related to testing and experimental validation must not be included in the video presentation/demonstrations. Any other information to scope, explain or highlight design features, concepts, methods or objectives to express the value of the vehicle to the judges shall be included at the teams' discretion.
6.8. The content of the submitted material will be treated confidentially and won't be published or reproduced in any way.
6.9. Video presentations' as well as video demonstrations' format is up to the teams to decide. It may vary from slides presentation with audio cover to a recorded presentation with physical presence or a combination of both.

	Topic	Max length (in min.)
Video Presentation	Team introduction, year's objectives	10
Video Demonstrations	Overall Vehicle Concept	20
	Team Management	20
	Chassis and Ergonomics	20
	Vehicle Dynamics and Suspension	20
	Powertrain	20
	Electrical and Control Systems	20
	Aerodynamics	20

Table 1 - Content and length of video presentation/demonstrations for CV and EV teams

	Topic	Max length (in min.)
Video Presentation	Team introduction, year's objectives	10
Video Demonstrations	Overall Vehicle Concept	20
	Team Management	20
	Chassis, Aerodynamics and Sensor Mounting	20
	Suspension and Actuators	20
	Powertrain	20
	Electronics and Signal Processing	20
	Trajectory Tracking	20
	Machine Vision	20
	Motion Planning	20
	Autonomous Safety	20

Table 2 - Content and length of video presentation/demonstrations for DV teams

7. Judging round

7.1. After the submission and evaluation of the videos, a list of specific questions will be shared with each team via an online platform.

7.2. Teams will have 24 hours to reply to the stated questions in written form.

8. Judging Criteria

8.1. The judges will evaluate the engineering effort based upon the team's DSS, EDR, ADR [DV only], Video Presentations/Demonstrations and responses to questions.

8.2. The judges may deduct points if the team cannot adequately explain the engineering of the vehicle or in the case of missing documents and/or missing video presentation/demonstrations. The same applies for late submissions of Engineering Design Documents and/or video presentation/demonstrations.

9. Virtual Engineering Design Finals

9.1. The top teams from CV and EV category will be asked to participate in the Virtual Design Finals. Team members will virtually meet with the judges.

9.2. The scope of the Virtual Engineering Design finals will be the evaluation of teams' knowledge background.

9.3. The Virtual Engineering Design finals won't be streamed and the material won't be reproduced in any kind.

9.4. The number of team members participating in the finals shall be decided by the teams.

10. Virtual Engineering Design Scoring

10.1. The overall engineering design event maximum scoring is 500 points.

10.2. The maximum scores listed in Table 3 apply for the engineering design event for CV and EV teams.

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Category	CV/EV points
Overall Vehicle Concept	80
Team Management	80
Chassis and Ergonomics	60
Vechicle Dynamics and Suspension	60
Powertrain	60
Electrical and Control Systems	60
Aerodynamics	60
Documentation	40
SUM	**500**

Table 3 - Maximum scores in Virtual Engineering Design Event for CV and EV teams

10.3. The maximum scores listed in Table 4 apply for the engineering design event for DV teams.

Category	DV points
Overall Vehicle Concept	55
Team Management	55
Chassis, Aerodynamics and Sensor Mounting	45
Suspension and Actuators	45
Powertrain	45
Electronics and Signal Processing	45
Trajectory Tracking	45
Machine Vision	45
Motion Planning	45
Autonomous Safety	45
Documentation	30
SUM	**500**

Table 4 - Maximum scores in Virtual Engineering Design Event for DV teams

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Virtual Business Plan Presentation Event Rules

1. Business Plan Presentation Objective

1.1. The objective of the BPP is to evaluate the team's ability to develop and deliver a comprehensive business model which demonstrates their product – a prototype race car – could become a rewarding business opportunity that creates a monetary profit.

1.2. The judges should be treated as if they were potential investors or partners for the presented business model.

1.3. The business plan must relate to the specific prototype race car designed for a Formula Student 2020 Event. The quality of the actual prototype will not be considered as part of the BPP judging.

1.4. For visual aids, the teams can use their car from previous years (videos, photos etc.)

2. Executive Summary

2.1. Teams should hand in a one page long Executive Summary until 19th June.

2.2. The Executive Summary must be uploaded in Adobe Acrobat® format (*.pdf file) to the FSOnline website no later than the given deadline.

2.3. The team name and car number for exact identification must be written in it.

2.4. The executive summary must contain one outstanding, innovative business model idea ('Why is your team's BP better?'), the planned revenue, the 3 main foreseeable costs for the following 3 years and the target market(s).

3. Business Plan Presentation Procedure - Initial Judging

3.1. Teams should upload their presentation until 9th of July.

3.2. Teams should upload their video to Youtube and share the link via the FSOnline website with the judges. (The video can be private. Only final presentations will be shared with other teams.)

3.3. Presentations are limited to a minimum of nine minutes and to a maximum of ten minutes.

3.4. Teams that fail to make their presentation within their assigned time period will receive zero points for the BPP.

3.5. At least one team member should present the business plan. If there are more presenters, please follow the guidelines that apply to your country at that time.

3.6. Non-finalist teams will receive written feedback from the judges until 6th August.

4. Deep Dive Topic

4.1. Teams receive the Deep Dive Topic on 10th of July.

4.2. The Deep Dive Topic is a specific business problem for what the teams should provide a solution within their business.

4.3. Teams have time to upload their solution until 12th of July.

4.4. The solution for the Deep Dive Topic should be summarized in 3 slides long Powerpoint presentation.

5. Business Plan Presentation Procedure - Finals

5.1. The list of the finalist teams will be announced on 6th of August.

5.2. Finalists should include their Deep Dive Topic to the presentation into the 10-minute presentation.

5.3. Finals will be a live presentation instead of uploaded videos.

5.4. Further details about the procedure will be shared in the Event Handbook.

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6. Business Plan Presentation Scoring

6.1. The BPP will be evaluated in the categories specified in the following table:

Category	Points
Executive Summary	5
Novelty	10
Content	20
Finances	15
Demonstration and structure	15
Delivery	10
General Impression	10
Deep Dive Topic	15
SUM	**75**

Table 5 - Maximum scores in Virtual Business Plan Presentation Event

6.2. The judging at the competition will start with an initial judging, where all teams are judged by different judging groups.

6.3. The scoring of the BPP is based on the average of the scores given by each of the judges.

6.4. The scoring of the BPP finalists will vary from 75 to 71 points and is scored immediately after the BPP finals by the judges in order to simulate the conditions of a normal event.

6.5. Scoring for the non-finalist is calculated as followed: $BPP\_SCORE = 70(Pteam/Pmax)$ where:
          Pteam - is the score awarded to the team
          Pmax - is the highest score awarded to any team not participating in the finals

6.6. The final points will be scaled up to a maximum 250 points.

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Concept Design Challenge

1. Concept Design Challenge Objective

1.1. The objective of the event is to provide an opportunity and motivation for the teams to investigate the possibility of implementing new solutions in Formula Student in association with the objective of the FS Rules: designed for the same static and dynamic disciplines, according to the currently valid safety rules.

1.2. Depending on their category the teams have to solve following challenges:

CV teams

Imagine that your current FS Team is a company and your current car is a product. Your task is to create a hybrid vehicle using a maximum 48V EV system. Create a proposal for your company's CTO regarding the hybrid solution(s) in your prototype FS car!
Convince the stakeholders that this new solution is worth the development time and efforts.

EV teams

Imagine that in five years your current FS Team is a company and your current car is a product. In the market it seems that energy storage is a bottleneck. Create a proposal for your company's CTO regarding alternative energy storage solution(s) in your prototype FS car!
Convince the stakeholders that this new solution is worth the development time and efforts.

DV teams

- If the team is competing with an internal combustion powertrain system, they have to enter the challenge for CV teams.
- If the team is competing with an electric powertrain system, they have to enter the challenge for EV teams.

2. Concept Design Challenge Report (CDCR)

2.1. The CDCR must be a six (6) page long concept document:
- four (4) A4 pages of the evaluation for the given specific problem;
- two (2) A4 pages of additional content (pictures, graphs, tables, etc.).

2.2. In the document the teams have to concentrate on the following topics:
- Under which conditions (rules, restrictions, selection of components, event support, ect.) does this concept make sense?
- How would you implement this concept in your vehicle?
- How would this concept influence your overall vehicle concept and the different design areas (vehicle dynamics, powertrain, suspension, chassis, electronics, etc.)?
- How much would the development cost in development time, human and financial resources?
- Is this concept realizable for your team?

2.3. The CDCR must be submitted online on the competition website no later than the given deadline.

2.4. The CDCR must be submitted in a single Adobe Acrobat® (*.pdf) file.

3. Concept Design Challenge Finals

3.1. The top teams of each category (CV, EV, DV) are judged in the CDCR finals.

3.2. The finalist teams have to prepare a 10 minutes long presentation which will be held live on the CDC finals at the given deadline.

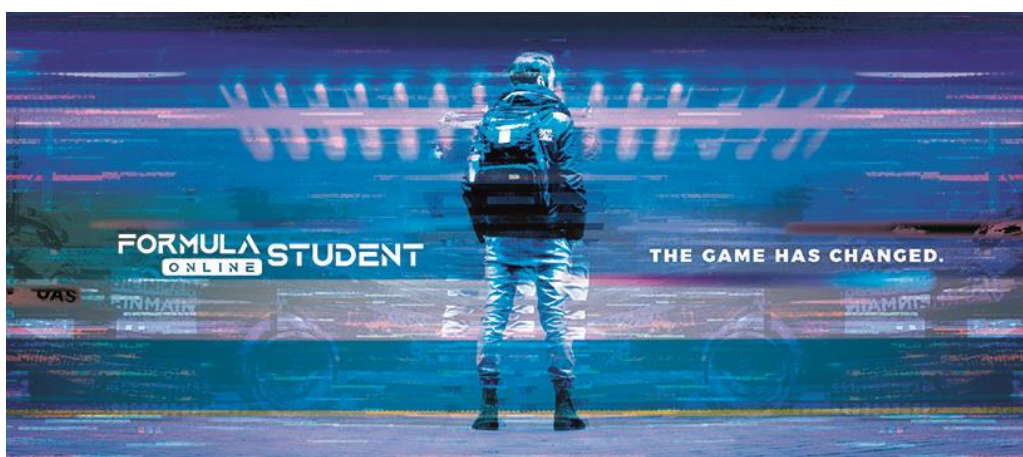3.3. The number of team members presenting is up to the teams to decide.

4. Concept Design Challenge Scoring

4.1.   The Concept Design Challenge maximum scoring is 50 points for each category.
4.2.   The maximum scores for each subtopic are listed in Table 6 below.

Category	CV/EV Points
Evaluation of feasibility conditions	10
Design of implementation in FS vehicle	10
Influence to the overall vehicle concept	10
Realization in FS team	10
Quality of the CDCR	10
SUM	**50**

Table 6 - Maximum scores in Concept Design Challenge Event for CV, EV and DV teams

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IMPORTANT DATES

	Engineering Design Event	Business Plan Presentation Events	Concept Challenge
June 19th - 11:59 PM (CEST)	deadline to upload the EDR, ADR & DSS	deadline to upload the Executive Summary	-
July 9th - 11:59 PM (CEST)	deadline to upload the EDE videos	deadline to upload the BPPE videos	deadline to upload CDC documents
July 10th - 10:00 AM (CEST)	-	publish of the deep dive topic	-
July 12th - 11:59 PM (CEST)	-	deadline to upload the deep dive topic	-
July 25th	-	-	the finalist teams are informed about their participation
July 30th - 10:00 AM (CEST)	the teams get the questions from judges	-	-
July 31st - 10:00 AM (CEST)	deadline for teams to answer the given questions	-	-
August 6th - 10:00 AM (CEST)	publish the results for non finalist teams and the names of finalist teams		-
August 7th	The finalist teams can test the system of the live Event		
August 8th	FINALS		

TOTAL SCORING OF THE EVENT

	EV and CV Teams (Total 1000 points)	DV Teams (Total 1250 points)
Static - Engineering Design Event	500	500
Static - Business Plan Presentation Event	250	250
Static - Concept Design Challenge	50	50
Simulator event	150	-
Virtual Driverless Event	-	400
Fun Activities	50	50

DYNAMIC RULES

1. General Rules

1.1 Drivers eligible to participate

Each driver participating must be enrolled as degree seeking undergraduate or graduate students in any university. Team members who have graduated within the seven month period prior to the competition remain eligible to participate.

Drivers will have to provide a video connection for identification purposes via a video conference platform which will be announced to the teams prior to the event.

Each team will have the opportunity to take part in the event with up to 6 drivers, but only 2 can participate on the final day on the 8th of August.

1.2 Bandwidth

It is each driver's responsibility to have a stable internet connection. During the autocross event, in case of lagging, if a driver hits a cone due to lag, the penalty will be assigned whether it was due to a connection issue or not.

Drivers with repeated connection issues can be excluded from the event.

1.3 Cheating and use of external software

It is not allowed to use external programs or data that alter the functions of the simulation in order to gain a competitive advantage.

Drivers caught cheating in any part of the event will be excluded from all parts of Formula Student Online.

In case no use of software can directly be proven in the files, but due to video evidence it is still obvious that the driving behaviour of the car cannot be explained with normal game functions, a ban on video evidence is also possible.

1.4 Accounts

You have to enter your real name in your rFactor 2 ingame account in order to participate. Each driver has to have an original rFactor 2 account. It is only possible for 2 drivers to use the same account if they are competing from the same PC.

1.5 Decisions by the Staff

The decisions made by the FSO staff are binding. If a situation is not covered by the rules, the FSO staff will have the final decision on it.

Any statements made by the FSO staff at Events, in Text Chatting or in Voice Chatting that are specified as rules, also count as rules and have to be accepted by all drivers.

1.6 Communication

We created a Discord server, which will serve both as a hotline during the dynamic event to share possible urgent information and we hope will serve as a community channel as well where all teams can connect with each other. Please use your full name on Discord.

To join the Discord server simply click on the following link:
https://discord.gg/zkkretQ

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2. Points System

Autocross		FSO Super Special	
1st	50 points	**1st**	100 points
2nd	45 points	**2nd**	90 points
3rd	41 points	**3rd**	82 points
4th	38 points	**4th**	76 points
5th	35 points	**5th**	70 points
6th	32 points	**6th**	64 points
7th	29 points	**7th**	58 points
8th	27 points	**8th**	54 points
9th	25 points	**9th**	50 points
10th	23 points	**10th**	46 points
11th	22 points	**11th**	44 points
12th	21 points	**12th**	42 points
13th	20 points	**13th**	40 points
14th	19 points	**14th**	38 points
15th	18 points	**15th**	36 points
16th	17 points	**16th**	34 points
17th	16 points	**17th**	32 points
18th	15 points	**18th**	30 points
19th	14 points	**19th**	28 points
20th	13 points	**20th**	26 points
21st	12 points	**21st**	24 points
22nd	11 points	**22nd**	22 points

*Dead heat between 17th-22nd will be decided by the results of the autocross event. Playoff races will only be held for 1st-16th place.

3. Event formats

3.1 Pre-qualifying

Each driver will have the chance to compete in the pre-qualifying session prior to the main event. A server will be set up where the drivers will have the chance to try and achieve the best possible lap time. The best driver of each team will take part in the main autocross event on the 8th of August and the FSO Super Special Final, where the 2nd fastest driver of the team will also compete.

3.2 Autocross event

On the 8th of August the main Autocross event will be held. 1 driver of each team will have the opportunity to set the fastest time. Drivers will take to the track in revised order of pre-qualifying, completing a single flying lap before returning to the pits.
The first driver to go out on the track will be the driver who set the slowest time in pre-qualifying (out of those who are competing in the event). 10 seconds after the first driver started their timed lap, the next driver has to begin their warm up lap. After their timed lap, each driver has to get back to the pitlane. In case a driver on their cool down lap spins or there is any danger that they will disturb the timed lap of the following car, they have to press the ESC button immediately.

3.3 FSO Super Special (RoC style)

In the FSO Super Special event, the individual drivers compete head-to-head in one race around a parallel track, which has one crossover to ensure both drivers have to complete the same distance.
Teams will be assigned to groups based on their pre-qualification results. Group stage duels between 2 teams will consist of a single race. Each team has to compete with 2 drivers in the FSO Super Special and both driver has to compete in one race of the group stage. (In case of a group with 4 teams, it is up to the teams which of their drivers will compete in 2 races)

3.3.1 EV category

22 teams will be assigned to 7 groups. 6 groups will have 3 teams, while the 7th group will be filled up with 4 teams. Each team will compete again the other 2/3 teams in their group respectively.
The winners of each group, and the 1st and 2nd place team of the 7th group will advance to the knockout stage.

3.3.2 CV category

18 teams will be assigned to 6 groups. Each team will compete again the other 2 teams in their group respectively. The winners of each group and the 2 fastest 2nd place finisher teams will advance to the knockout stage.

If a dead heat occurs in the group stage, the places will be decided based on the results of the autocross event.

3.3.4 Knockout stage

8 teams of 2 drivers in each category will compete in the knockout stage. Each duel consists of maximum 3 runs with the team that achieves two victories advancing to the next round. Both drivers have to compete in one run of each knockout stage duels. Playoff races for the non-advancing teams will not be held. Their results will be determined based on the Autocross results. A team advancing to the quarter finals cannot finish lower than 8th.

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4.Penalties

4.1 DOO penalty

If a driver touches a cone during their pre-qualifying lap, their lap time will be deleted after reviewing by a judge.
A cone is Down or Out (DOO) if the cone has been touched by any part of the car. The Cones in the simulator will remain in their places, even if they are hit by a car, but a judge will be observing all runs and will evaluate if any penalty has to be applied.

The DOO penalty during the live event is added for each DOO including entry and exit gate cones before the start and after the finish line, that occur on that particular run.

Penalty for DOO is **1 second.**

4.2 Off-course (OC)

• An OC occurs when the vehicle has all four wheels outside the track boundary as indicated by the white lines.
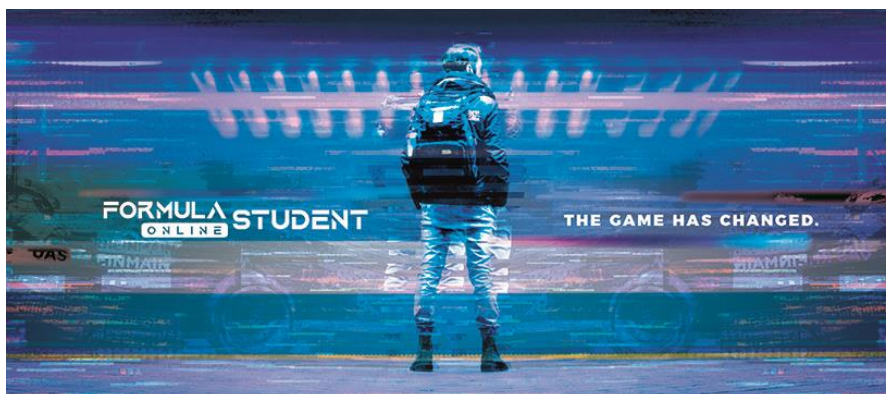• When an OC occurs, the driver must re-enter the track at the next possible point.
Penalty for OC is **10 seconds.**

5.Timetable*

Date	Event	Track
3rd of August – 6th of August	Pre qualifing	ZalaZone
8th of Auguts – 9:30 am	Autocross	ZalaZone
8th of August – 11 am	FSO SS (Group Stage)	RoC
8th of August – 2 pm	FSO SS (Playoff 9th – 16th)	RoC
8th of August – 4:30 pm	FSO SS (Knockout stage)	RoC

*The timetable is only provisional, the final schedule may change, and will be published on the 3rd of August.

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6.Game settings

The simulation settings will be as follows:

Difficulty	Server settings	Rules	Server settings
Steering help	OFF	Fuel usage	Normal
Opposite lock	OFF	Tire wear	Normal
Braking help	OFF	Mechanical failures	Normal
Stability control	OFF	Race length type	2 laps
Spin recovery	OFF	Replay Fridge	Optional
Invulnerability	OFF	Record Replays	Optional
Auto Shifting	OFF	Fixed setups	No
Traction control	OFF		
Anti-Lock brakes	OFF		
Auto pit lane	OFF		
Auto clutch	ON		
Auto reverse	OFF		
Damage multiplier	100%		

Display	Required setting		
Message center	ON		
Default view	Cockpit		
Flag rules	Full		

Note: It is recommended to have replays ON, but not required. Incidents may require your own replay for accurate resolution. If you cannot provide a replay the incident may be resolved in a less than desired manner.

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Best of luck to all participating teams! Enjoy the race ;)

Fun activities
BECAUSE WHAT`S FUN WITHOUT RULES

FS Online takes your competitiveness and effort for best results into a virtual and safe environment. But, speaking from our own experience, as we all know very well, a Formula Student event is about so much more than the competition itself. And we want to offer you all that makes it "more"!

How can we do this when everybody is staying at home? Pick up to 3 activities from below, execute them using the wide range of talent you have in your teams and show us how you can have fun Formula Student style! This is going to help us keep up your excitement during the live finals on Auguast 8th as well, since the best clips will surely make it into the broadcast. Here`s your chance to make your team YouTube famous, use it wisely ;)

But wait, there`s more!

Scoring

Yes, that`s right – if you`re funny, you get lucky! Up to 50 points will be added to your total score based on your submissions for fun. Never been so easy to get some advantage in the competition, has it? Our esteemed panel of fun-judges will score you as follows:

- Maximum 20 points for each submitted video clip
- Maximum 1 submission in up to 3 categories
- Up to 50 points in total for all submitted content (i.e. if you submit 3 videos, your maximum available points will be 50)

Deadline

Links to the videos should be submitted to the FSO website (www.formulastudentonline.com) by **23rd of July, 23:59 CEST.**

Categories

- Escape at home: perform a driver egress test simulation at home using household items and record it in a maximum 30 s video. No car parts allowed, video must clearly show a successful egress test!
- Kitchen under scrutiny: stop-motion style video of a Formula Student scrutineering performed by food items on each other in your kitchens, in no more than 60 s. No car parts allowed (hopefully this is superfluous - we sincerely hope nobody has cooked up a delicious pasta carbonara using leftover monocoque pieces)!
- Self-made car: how would car parts socially distance themselves? How could they keep on working like we had to, but avoid contracting the invisible enemy? Show us what a Zoom meeting of your Formula Student car`s parts would look like in a 90 s video clip!
- Done in 60 seconds: You ever thought that commentators have it easy at a Formula Student? Now you can show us what you could do if you had their job – while commentating a friend making some eggs! Cook an omelette in 60 seconds and show us the excitement behind the stovetop and the race for the velvety smooth texture!
- Daily scruti: We all know that you take great care of your racecar – but how much time do you have left to keep your trusty workhorse tip-top that gets you to and from your workshop? Perform a quick tech inspection of a team member`s own car to show us you care beyond the racetrack as well. Warning: vehicle condition will not be scored! Disclaimer: Formula Student Online is not liable for registrations revoked by local authorities upon witnessing the deathtraps you drive and the cheap botch jobs used to keep them going on a Formula Student team member`s extremely limited time and budget. To help you cover up bondoed bodywork and oil-stained underbody, don`t make the video longer than 60 s!
- Formula P.I.M.P: You always wanted to show off and impress with neon lights and a bangin` stereo but your chief designer never allowed it "because it weighs too much"? Now you can overrule him in Formula P.I.M.P.! Turn your car into something that would outshine and outfancy anything from SEMA or Worthersee – neons, LED strips, sound systems, TV screens,

gaming consoles, minibars, anything goes! The crazier the better! Take us on a maximum 60 second video tour around your creation to get those extra points.
- ■ Breaking news!: We interrupt our regular programming to bring you the craziest thing that happened to us at a competition! Tell us your most outrageous, fun story (that is safe for a live, public broadcast over the internet, mind you – i.e. your parents could be watching it) that happened to your team or some of your team members during a competition as a section of a TV news programme, in a maximum 30 second long video announcement!
- ■ Make it rain!: Remember the time when you`re all anxiously waiting for your EV car to pass the rain test? Now the tables have turned – your team will be rain tested, at home! Devise an experiment to prove your team`s insulation in a simulated, COVID-ready, socially distanced homemade rain test! Most creative and funny solution wins, but the video must not be longer than 60 seconds.

Format

Acceptable format: YouTube or Vimeo links uploaded to FSO website (www.formulastudentonline.com). The finalists will be required to send us the video files through filesharing service, specified in the email sent out after judging the videos.
Video quality: 1080p resolution, 30 fps.
Please refrain from using copyrighted content!

Category	Format
Escape at home	30 s video
Kitchen under scrutiny	60 s video
Self-made car	90 s video
Done in 60 seconds	60 s video
Daily scruti	60 s video
Formula P.I.M.P.	60 s video
Breaking news!	30 s video
Make it rain!	60 s video

MAKE'EM FUNNY SO YOU GET LUCKY!

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