

FSS

FORMULA STUDENT *SPAIN*

HANDBOOK
HNBK
FSS 2023

13TH EDITION



STA

SOCIEDAD DE TÉCNICOS DE AUTOMOCIÓN



FIRST OF ALL


THANK YOU

FOR JOINING FORMULA STUDENT
SPAIN

The Handbook Release (RELEASE_01) Is the FIRST VERSION. FSS organization will not distribute this document as a printed document at the Ticket Centre, at the moment of team registration on Sunday, 6th of August 2023. Any additional changes will be updated in following releases.

ABOUT US

00. FORMULA STUDENT SPAIN



Formula Student Spain Formula Student Spain is a competition, organized by STA (Spanish Society of Automotive Engineers), with the support of Spanish institutions and relevant companies in the automotive industry. All of them work in a nonprofit way for the event. FSS organization is a pool of more than 350 volunteers, mostly from motor sport & automotive sectors that work in a nonprofit way for the event, as Judges, Scrutineers, Marshalls, Officials, Staff, etc. Also, more than 70 young students in their last years of engineering degree support the event.

OUR MISSION

FSS has the mission to create a multicultural space for young engineers for the exchange and development of knowledge and values of respect, people care, teamwork and effort, to reach the highest levels of technical and personal excellence, in both participants and staff.

OUR VALUES

- Passion for motorsports.
- Interest in people's care.
- Innovation and Creativity.
- Respect, teamwork and effort.

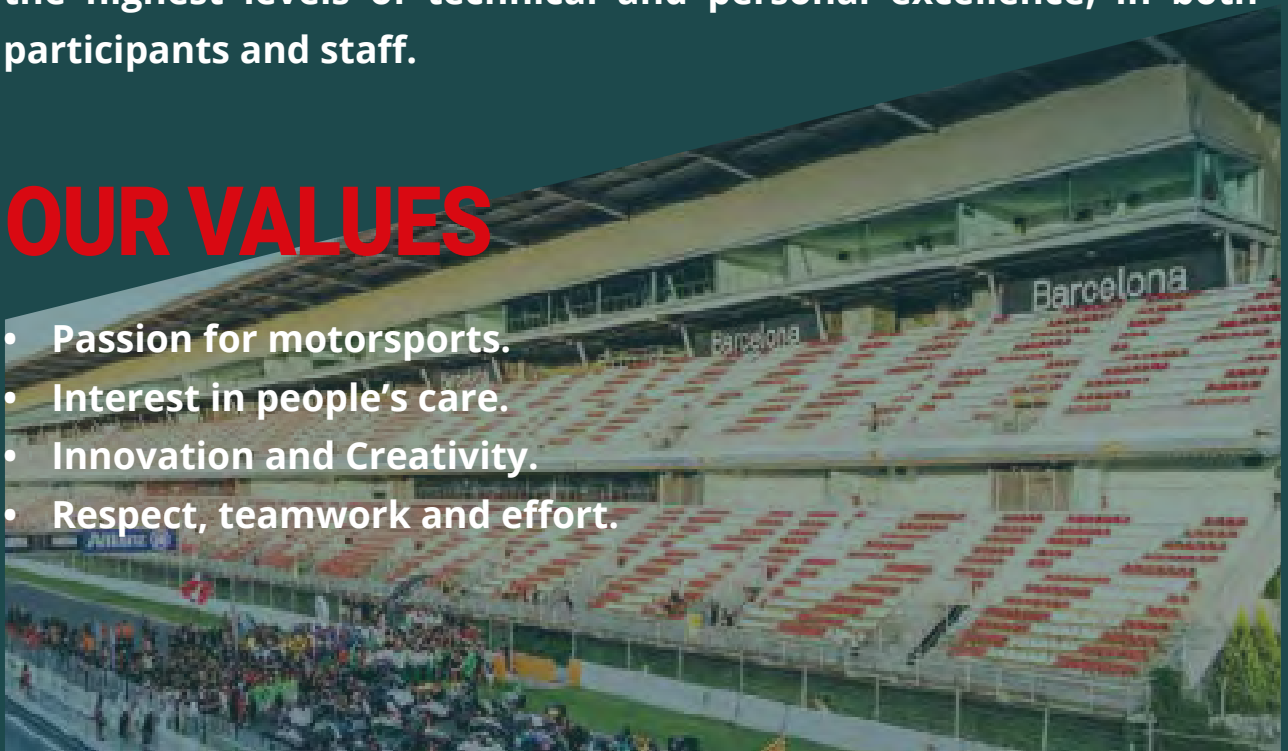


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01. EMERGENCY INFORMATION

Here you will find information to help you if you have an emergency during the event.

IF IT IS A MINOR INJURY:

For a minor injury emergency, you can contact any FSS volunteer, as they can provide first aid materials. If you think you need a major intervention, you can contact Event Control. In addition, here you have information about the closest Medical Center to Circuit of Barcelona-Catalunya.

MEDICAL CENTER



MONTMELÓ
Plaça Ernest Lluch, 1
+34 93 544 44 40

MEDICAL CENTER



MONTORNÈS DEL VALLÉS
C/ de Can Parera, 7
+34 93 572 03 03

MEDICAL CENTER



GRANOLLERS
C/Museu, 19
+34 93 860 05 10

IF IT IS A SEVERE INJURY:

Contact the Event Control or any one from the Organization that will contact emergency services. In case the Event Control is closed, you can contact the emergency number:

+34661801384

THE EMERGENCY NUMBER IS:

112

HOSPITAL GENERAL DE GRANOLLERS

Av. de Francesc Ribas
+34 93 842 50 00

02. EVENT SCHEDULE

SUNDAY 6TH

10:00H - 18:00H
10:00H - 13:00H & 15:00H - 19:00H
10:00H - 22:00H

REGISTRATION
EVENT CONTROL
PITS OPEN/CLOSE

TICKET CENTRE
BOX 6
BOXES

MONDAY 7TH

08:00H - 22:00H
09:00H - 13:00H & 15:00H - 19:00H
09:00H - 19:00H
09:00H - 20:00H
09:00H - 18:00H
09:00H - 14:00H & 15:00H - 19:00H
09:00H - 14:00H & 15:00H - 19:00H
10:00H - 14:00H & 15:00H - 19:00H
09:00H - 10:00H
12:00H - 14:00H & 15:00H - 17:00H
19:00H - 22:00H

PITS OPEN/CLOSE
EVENT CONTROL
SCRUTINEERING & TECH INSPECTION
DESIGN EVENT & COST EVENT
BUSINESS PLAN EVENT
CHARGING & HIGH VOLTAGE AREA
WELDING AREA
ENGINE TEST AREA (UNDER REQUEST)
FUEL STATION
FUEL STATION
TEAMS PARADE & OPENING

BOXES
BOX 6
BOXES 11 TO 15
BOXES 7 TO 10
BUSINESS ROOMS
BOXES 17 & 18
PADDOCK
PADDOCK
FUEL STATION
SCRUTINEERING BOXES
PIT LANE

TUESDAY 8TH

08:00H - 22:00H
09:00H - 13:00H & 15:00H - 19:00H
09:00H - 19:00H
09:00H - 20:00H
18:00H - 20:00H
09:00H - 11:00H
16:00H - 18:00H
09:00H - 14:00H & 15:00H - 19:00H
09:00H - 14:00H & 15:00H - 19:00H
09:00H - 14:00H & 15:00H - 19:00H
09:00H - 10:00H
12:00H - 14:00H & 15:00H - 17:00H
15:00H - 18:00H
15:00H - 18:00H

PITS OPEN/CLOSE
EVENT CONTROL
SCRUTINEERING & TECH INSPECTION
DESIGN EVENT & COST EVENT
COST FINALS
BUSINESS PLAN EVENT
BUSINESS PLAN FINALS
CHARGING & HIGH VOLTAGE AREA
WELDING AREA
ENGINE TEST AREA
FUEL STATION
FUEL STATION
PRACTICE AREA
PRACTICE AREA DRIVERLESS

BOXES
BOX 6
BOXES 11 TO 15
BOXES 7 TO 10
BOXES 7 TO 10
BRIEFING ROOM
BRIEFING ROOM
BOXES 17 & 18
PRACTICE AREA
PRACTICE AREA
FUEL STATION
SCRUTINEERING BOXES
PADDOCK
PADDOCK

WEDNESDAY 9TH

08:00H - 22:00H
09:00H - 13:00H & 15:00H - 19:00H
09:00H - 13:00H
09:00H - 16:00H
18:00H - 20:00H
09:00H - 14:00H & 15:00H - 19:00H
09:00H - 14:00H & 15:00H - 19:00H
09:00H - 14:00H & 15:00H - 19:00H
09:00H - 10:00H
12:00H - 14:00H & 15:00H - 17:00H
09:00H - 12:00H & 16:00H - 19:00H
09:00H - 12:00H & 16:00H - 19:00H
13:00H - 15:00H
21:00H - 22:30H

PITS OPEN/CLOSE
EVENT CONTROL
SCRUTINEERING & TECH INSPECTION
DESIGN EVENT
DESIGN FINALS
CHARGING & HIGH VOLTAGE AREA
WELDING AREA
ENGINE TEST AREA
FUEL STATION
FUEL STATION
PRACTICE AREA
PRACTICE AREA DRIVERLESS
SKIDPAD DRIVERLESS
DYNAMIC EVENTS BRIEFING

BOXES
BOX 6
BOXES 11 TO 15
BOXES 7 TO 10
BOXES 7 TO 10
BOXES 17 & 18
PADDOCK
PRACTICE AREA
FUEL STATION
SCRUTINEERING BOXES
PADDOCK
PADDOCK
PADDOCK
BRIEFING ROOM

02. EVENT SCHEDULE

THURSDAY 10TH

08:00H - 00:30H (+1DAY)

09:00H - 12:00H

14:00H - 17:00H

09:00H - 13:00H & 15:00H - 19:00H

09:00H - 14:00H & 15:00H - 21:00H

09:00H - 14:00H & 15:00H - 19:00H

09:00H - 14:00H & 15:00H - 19:00H

09:00H - 10:00H

12:00H - 14:00H & 15:00H - 17:00H

08:00H - 13:00H & 15:00H - 22:00H

09:00H - 13:00H & 15:00H - 19:00H

09:00H - 12:00H

14:00H - 17:00H

18:00H - 20:00H

21:00H - 00:00H (+1DAY)

PITS OPEN/CLOSE

SKIDPAD

AUTOCROSS DRIVERLESS

EVENT CONTROL

CHARGING & HIGH VOLTAGE AREA

WELDING AREA

ENGINE TEST AREA

FUEL STATION

FUEL STATION

PRACTICE AREA

PRACTICE AREA DRIVERLESS

SKIDPAD

AUTOCROSS DRIVERLESS

ACCELERATION DRIVERLESS

ACCELERATION

BOXES

PADDOCK

IN TORRE

BOX 6

BOXES 17 & 18

PADDOCK

PRACTICE AREA

FUEL STATION

SCRUTINEERING BOXES

PADDOCK

PADDOCK

IN TORRE

OFFICIAL TRACK

OFFICIAL TRACK

FRIDAY 11TH

08:00H - 22:00H

09:00H - 09:15H

09:00H - 13:00H & 15:00H - 19:00H

09:00H - 14:00H & 15:00H - 19:00H

09:00H - 14:00H & 15:00H - 19:00H

09:00H - 14:00H & 15:00H - 19:00H

09:00H - 10:00H

12:00H - 14:00H & 15:00H - 17:00H

09:00H - 13:00H & 15:00H - 18:00H

09:00H - 13:00H & 15:00H - 18:00H

10:00H - 14:00H

16:00H - 20:00H

PITS OPEN/CLOSE

AUTOCROSS COURSEWALK

EVENT CONTROL

CHARGING & HIGH VOLTAGE AREA

WELDING AREA

ENGINE TEST AREA

FUEL STATION

FUEL STATION

PRACTICE AREA

PRACTICE AREA DRIVERLESS

AUTOCROSS

TRACKDRIVE DRIVERLESS

BOXES

OFFICIAL TRACK

BOX 6

BOXES 17 & 18

PADDOCK

PRACTICE AREA

FUEL STATION

SCRUTINEERING BOXES

OFFICIAL TRACK

IN TORRE

OFFICIAL TRACK

IN TORRE

SATURDAY 12TH

07:00H - 20:00H

08:00H - 08:15H

09:00H - 13:00H & 15:00H - 19:00H

08:00H - 14:00H & 15:00H - 17:00H

09:00H - 14:00H & 15:00H - 19:00H

09:00H - 14:00H & 15:00H - 19:00H

09:00H - 10:00H

12:00H - 14:00H & 15:00H - 17:00H

08:00H - 15:00H

09:00H - 17:00H

09:00H - 13:00H

15:00H - 16:00H

18:00H - 19:00H

20:00H - 22:00H

PITS OPEN/CLOSE

ENDURANCE COURSEWALK

EVENT CONTROL

CHARGING & HIGH VOLTAGE AREA

WELDING AREA

ENGINE TEST AREA

FUEL STATION

FUEL STATION

PRACTICE AREA

PARC FERMÉ

ENDURANCE

ENDURANCE FINALS

TEAMS PHOTO

AWARDS CEREMONY

BOXES

OFFICIAL TRACK

BOX 6

BOXES 17 & 18

PADDOCK

PRACTICE AREA

FUEL STATION

SCRUTINEERING BOXES

OFFICIAL TRACK

TBC

OFFICIAL TRACK

OFFICIAL TRACK

OFFICIAL TRACK

OFFICIAL TRACK

03. PARTICIPATING TEAMS

TEAM NAME	UNIVERSITY NAME	COUNTRY	TYPE	CAR NUMBER
Formula Technion	Technion - Israel Institute of technology	ISRAEL	DEV+EV	510
Os.Car Racing Team	UAS Vienna	AUSTRIA	EV	10
Tecnun eRacing	Tecnun - Universidad de Navarra	SPAIN	EV	14
UPC ecoRacing	UPC Terrassa	SPAIN	DEV+EV	15
Zurich UAS Racing	Zurich University of Applied Sciences ZHAW	SWITZERLAND	DEV+EV	16
HorsePower Hannover	Leibniz Universität Hannover	GERMANY	EV	23
UBRacing	University of Birmingham	UK	EV	26
Formula Student Bizkaia	University of the Basque Country (UPV/EHU)	SPAIN	EV	48
FST Lisboa	University of Lisbon	PORTUGAL	DEV+EV	150
Raceyard E	University of Applied Sciences Kiel	GERMANY	EV	53
BCN eMotorsport	ETSEIB - ETSETB	SPAIN	DEV+EV	54
Metz Racing Team	ENI Metz	FRANCE	EV	57
Team Bath Racing electric	University of Bath	UK	EV	67
Formula Student Vitoria	University of the Basque Country (UPV/EHU)	SPAIN	EV	74
e-Tech Racing	EEBE UPC	SPAIN	EV	79
ISC FS Racing Team	ICAI Comillas Pontifical University	SPAIN	EV	133
Emotion Racing	UAS Ruhr West	GERMANY	EV	119
Sapienza Fast Charge	Università Di Roma "Sapienza"	ITALY	EV	124
EFST	ECAM Lasalle	SPAIN	EV	123
Valais Wallis Racing Team	HES-SO Valais Wallis	SWITZERLAND	EV	162
Bremergy	Universität Bremen	GERMANY	EV	172
UniUD E-Racing Team	Università degli Studi di Udine	ITALY	EV	140
UVigo Motorsport	University of Vigo	SPAIN	CV	314
Aixtreme Racing	FH Aachen	GERMANY	CV	71
Formula UEM	Universidad Europea	SPAIN	CV	83
BlueStreamline	Transilvania University of Brasov	ROMANIA	CV	111
Formula Gades	Universidad de Cádiz	SPAIN	CV	212
Dynamics UPC Manresa	UPC Manresa	SPAIN	CV	225
UFV Racing Team	Universidad Francisco de Vitoria	SPAIN	CV	269
MART	Universidad de Málaga	SPAIN	CV	364
FSUPV Team	Universitat Politècnica de Valencia	SPAIN	DCV+CV	395
Global Formula Racing	Oregon State University	USA	DEV	2
MoRe Modena Racing Driverless	Università di Modena e Reggio Emilia	ITALY	DCV	599

04. TEAMS DISTRIBUTION

TEAM NAME	BOX #
FORMULA TECHNION	22
OS.CAR RACING TEAM	30
TECNUN ERACING	24
UPC ECRACING	22
ZURICH UAS RACING	20
HORSEPOWER HANNOVER	23
UBRACING	24
FORMULA STUDENT BIZKAIA	26
FST LISBOA	21
RACEYARD E	26
BCN EMOTORSPORT	20
METZ RACING TEAM	27
TEAM BATH RACING ELECTRIC	23
FORMULA STUDENT VITORIA	25
E-TECH RACING	28
ISC FS RACING TEAM	27
EMOTION RACING	28
SAPIENZA FAST CHARGE	31
EFST	30
VALAIS WALLIS RACING TEAM	29
BREMERYG	25
UNIUD E-RACING TEAM	29
UVIGO MOTORSPORT	34
AIXTREME RACING	31
FORMULA UEM	32
BLUESTREAMLINE	35
FORMULA GADES	32
DYNAMICS UPC MANRESA	34
UFV RACING TEAM	33
MART	33
FSUPV TEAM	21
GLOBAL FORMULA RACING	19
MORE MODENA RACING DRIVERLESS	19

05. TEAMS SCHEDULE

TEAM NAME	BUSINESS	BUSINESS	COST EVENT START TIME	COST EVENT END TIME	DESIGN EVENT START TIME	DESIGN EVENT END TIME	PRE-INSPECT. START TIME	PRE-INSPECT. END TIME	ACCUMULATOR START TIME	ACCUMULATOR END TIME	ELECTRICAL START TIME	ELECTRICAL END TIME	MECHANICAL START TIME	MECHANICAL END TIME
	PLAN START TIME	PLAN END TIME												
Aixtreme Racing	7/8/23 12:00	7/8/23 13:00	8/8/23 11:00	8/8/23 12:00	8/8/23 12:20	8/8/23 13:10	8/8/23 10:00	8/8/23 10:20					8/8/23 14:50	8/8/23 16:20
BCN eMotorsport	7/8/23 10:00	7/8/23 11:00	8/8/23 14:00	8/8/23 15:00	8/8/23 11:10	8/8/23 12:10	7/8/23 14:20	7/8/23 14:40	7/8/23 09:00	7/8/23 10:40	7/8/23 11:10	7/8/23 13:30	7/8/23 14:50	7/8/23 16:20
BlueStreamline	7/8/23 10:00	7/8/23 11:00	7/8/23 12:00	7/8/23 13:00	8/8/23 15:30	8/8/23 16:20	7/8/23 16:20	7/8/23 16:40					8/8/23 10:40	8/8/23 12:10
Bremeryg	7/8/23 10:00	7/8/23 11:00	7/8/23 15:00	7/8/23 16:00	9/8/23 14:00	9/8/23 14:50	7/8/23 11:30	7/8/23 11:50	8/8/23 13:30	8/8/23 15:10	7/8/23 16:40	7/8/23 18:40	9/8/23 09:00	9/8/23 10:30
Dynamics UPC Manresa	7/8/23 10:00	7/8/23 11:00	7/8/23 15:00	7/8/23 16:00	9/8/23 10:00	9/8/23 10:50	7/8/23 11:00	7/8/23 11:20					7/8/23 09:00	7/8/23 10:30
e-Tech Racing	7/8/23 11:00	7/8/23 12:00	7/8/23 15:00	7/8/23 16:00	9/8/23 10:00	9/8/23 10:50	7/8/23 13:00	7/8/23 13:20	8/8/23 09:00	8/8/23 10:40	8/8/23 11:10	8/8/23 13:10	7/8/23 10:40	7/8/23 12:10
EFST	7/8/23 16:00	7/8/23 17:00	7/8/23 17:00	7/8/23 18:00	9/8/23 15:00	9/8/23 15:50	7/8/23 10:30	7/8/23 10:50	8/8/23 15:20	8/8/23 17:00	9/8/23 09:00	9/8/23 11:00	9/8/23 11:30	9/8/23 13:00
Emotion Racing	7/8/23 11:00	7/8/23 12:00	7/8/23 17:00	7/8/23 18:00	7/8/23 12:00	7/8/23 12:50	7/8/23 15:50	7/8/23 16:10	8/8/23 10:50	8/8/23 12:30	8/8/23 14:30	8/8/23 16:30	8/8/23 17:00	8/8/23 18:30
Formula Gades	7/8/23 11:00	7/8/23 12:00	7/8/23 12:00	7/8/23 13:00	9/8/23 09:00	9/8/23 09:50	7/8/23 11:00	7/8/23 11:20					7/8/23 09:00	7/8/23 10:30
Formula Student Bizkaia	7/8/23 11:00	7/8/23 12:00	7/8/23 09:00	7/8/23 10:00	8/8/23 16:30	8/8/23 17:20	7/8/23 13:00	7/8/23 13:20	7/8/23 15:20	7/8/23 17:00	8/8/23 09:00	8/8/23 11:00	7/8/23 10:40	7/8/23 12:10
Formula Student Vitoria	7/8/23 11:00	7/8/23 12:00	7/8/23 12:00	7/8/23 13:00	9/8/23 11:00	9/8/23 11:50	7/8/23 11:00	7/8/23 11:20	8/8/23 13:30	8/8/23 15:10	8/8/23 16:20	8/8/23 18:20	9/8/23 09:00	9/8/23 10:30
Formula Technion	7/8/23 15:00	7/8/23 16:00	8/8/23 11:00	8/8/23 12:00	7/8/23 15:40	7/8/23 16:40	7/8/23 13:00	7/8/23 13:20	7/8/23 13:30	7/8/23 15:10	7/8/23 17:00	7/8/23 19:00	8/8/23 09:00	8/8/23 10:30
Formula UEM	7/8/23 16:00	7/8/23 17:00	7/8/23 17:00	7/8/23 18:00	8/8/23 14:30	8/8/23 15:20	7/8/23 12:30	7/8/23 12:50					7/8/23 09:00	7/8/23 10:30
FST Lisboa	7/8/23 12:00	7/8/23 13:00	7/8/23 10:00	7/8/23 11:00	7/8/23 17:00	7/8/23 18:00	7/8/23 14:50	7/8/23 15:10	8/8/23 09:00	8/8/23 10:40	8/8/23 11:10	8/8/23 13:30	8/8/23 14:50	8/8/23 16:20
FSUPV Team	8/8/23 10:00	8/8/23 11:00	8/8/23 13:00	8/8/23 14:00	8/8/23 16:50	8/8/23 17:50	8/8/23 09:00	8/8/23 09:20					8/8/23 10:40	8/8/23 12:10
Global Formula Racing	8/8/23 10:00	8/8/23 11:00	8/8/23 16:30	8/8/23 17:30	8/8/23 18:00	8/8/23 19:00	7/8/23 18:20	7/8/23 18:40	8/8/23 09:00	8/8/23 10:40	8/8/23 11:10	8/8/23 13:30	8/8/23 13:50	8/8/23 15:20
HorsePower Hannover	7/8/23 12:00	7/8/23 13:00	8/8/23 09:00	8/8/23 10:00	8/8/23 12:20	8/8/23 13:10	7/8/23 17:50	7/8/23 18:10	7/8/23 09:00	7/8/23 10:40	7/8/23 11:10	7/8/23 13:30	7/8/23 14:50	7/8/23 16:20
ISC FS Racing Team	7/8/23 12:00	7/8/23 13:00	7/8/23 11:00	7/8/23 12:00	7/8/23 13:50	7/8/23 14:40	7/8/23 16:50	7/8/23 17:10	8/8/23 10:50	8/8/23 12:30	8/8/23 14:30	8/8/23 16:30	8/8/23 17:00	8/8/23 18:30
MART	7/8/23 14:00	7/8/23 15:00	7/8/23 09:00	7/8/23 10:00	9/8/23 12:00	9/8/23 12:50	7/8/23 12:30	7/8/23 12:50					7/8/23 10:40	7/8/23 12:10
Metz Racing Team	7/8/23 14:00	7/8/23 15:00	7/8/23 11:00	7/8/23 12:00	8/8/23 14:20	8/8/23 15:10	7/8/23 09:30	7/8/23 09:50	7/8/23 13:30	7/8/23 15:10	7/8/23 16:40	7/8/23 18:40	8/8/23 09:00	8/8/23 10:30
MoRe Modena Racing DV	8/8/23 09:00	8/8/23 10:00	8/8/23 14:00	8/8/23 15:00	8/8/23 15:40	8/8/23 16:40	8/8/23 09:30	8/8/23 09:50					8/8/23 10:40	8/8/23 12:30
Os.Car Racing Team	7/8/23 14:00	7/8/23 15:00	8/8/23 09:00	8/8/23 10:00	9/8/23 14:00	9/8/23 14:50	7/8/23 11:30	7/8/23 11:50	7/8/23 15:20	7/8/23 17:00	7/8/23 09:00	7/8/23 11:00	7/8/23 12:20	7/8/23 13:50
Raceyard E	7/8/23 14:00	7/8/23 15:00	7/8/23 10:00	7/8/23 11:00	8/8/23 11:00	8/8/23 11:50	7/8/23 12:30	7/8/23 12:50	7/8/23 13:30	7/8/23 15:10	7/8/23 17:00	7/8/23 19:00	8/8/23 09:00	8/8/23 10:30
Sapienza Fast Charge	7/8/23 16:00	7/8/23 17:00	7/8/23 12:00	7/8/23 13:00	7/8/23 11:00	7/8/23 11:50	7/8/23 10:00	7/8/23 10:20	7/8/23 15:20	7/8/23 17:00	8/8/23 09:00	8/8/23 11:00	8/8/23 12:20	8/8/23 13:50
Team Bath Racing electric	7/8/23 14:00	7/8/23 15:00	8/8/23 10:00	8/8/23 11:00	8/8/23 17:30	8/8/23 18:20	7/8/23 10:00	7/8/23 10:20	7/8/23 10:50	7/8/23 12:30	7/8/23 14:30	7/8/23 16:30	7/8/23 17:00	7/8/23 18:30
Tecnun eRacing	7/8/23 15:00	7/8/23 16:00	8/8/23 09:00	8/8/23 10:00	9/8/23 12:00	9/8/23 12:50	7/8/23 17:20	7/8/23 17:40	7/8/23 09:00	7/8/23 10:40	7/8/23 11:10	7/8/23 13:30	7/8/23 14:50	7/8/23 16:20
UBRacing	7/8/23 15:00	7/8/23 16:00	7/8/23 17:00	7/8/23 18:00	9/8/23 09:00	9/8/23 09:50	7/8/23 12:00	7/8/23 12:20	8/8/23 10:50	8/8/23 12:30	8/8/23 14:10	8/8/23 16:10	8/8/23 16:30	8/8/23 18:00
UFV Racing Team	7/8/23 16:00	7/8/23 17:00	7/8/23 10:00	7/8/23 11:00	9/8/23 11:00	9/8/23 11:50	7/8/23 15:20	7/8/23 15:40					7/8/23 12:20	7/8/23 13:50
UniUD E-Racing Team	7/8/23 14:00	7/8/23 15:00	7/8/23 15:00	7/8/23 16:00	9/8/23 15:00	9/8/23 15:50	7/8/23 11:30	7/8/23 11:50	7/8/23 17:10	7/8/23 18:50	8/8/23 09:00	8/8/23 11:00	8/8/23 12:20	8/8/23 13:50
UPC ecoRacing	7/8/23 15:00	7/8/23 16:00	8/8/23 11:00	8/8/23 12:00	8/8/23 10:00	8/8/23 11:00	7/8/23 09:00	7/8/23 09:20	7/8/23 10:50	7/8/23 12:30	7/8/23 14:30	7/8/23 16:50	7/8/23 17:00	7/8/23 18:30
UVigo Motorsport	7/8/23 15:00	7/8/23 16:00	8/8/23 13:00	8/8/23 14:00	8/8/23 10:00	8/8/23 10:50	7/8/23 10:30	7/8/23 10:50					7/8/23 12:20	7/8/23 13:50
Valais Wallis Racing Team	7/8/23 15:00	7/8/23 16:00	7/8/23 16:00	7/8/23 17:00	7/8/23 14:45	7/8/23 15:35	7/8/23 12:00	7/8/23 12:20	8/8/23 15:20	8/8/23 17:00	9/8/23 09:00	9/8/23 11:00	9/8/23 11:30	9/8/23 13:00
Zurich UAS Racing	7/8/23 16:00	7/8/23 17:00	8/8/23 10:00	8/8/23 11:00	8/8/23 08:50	8/8/23 09:50	7/8/23 09:30	7/8/23 09:50	7/8/23 10:50	7/8/23 12:30	7/8/23 14:30	7/8/23 16:50	7/8/23 17:00	7/8/23 18:30

06. EVENT INFORMATION

06.1. TICKET CENTRE

LOCATION: Main Entrance (Outside the Circuit)

SERVICES

- Team Registration (Event & Campsite)
- Vehicle Passes
- Vests, wristbands and badges

Deposits for Dynamic, ESO, ASR and Media Vests, Transponder and Energymeter, can be paid through the following link:

[Formula Student Spain 2023 | Vests, Energymeter and Transponder](#)

DEPOSITS QR CODE



Campsite fee can be paid through the following link:

[Formula Student Spain 2023 | Campsite payment](#)

CAMPSITE QR CODE



We strongly recommend you pay the deposits in advance.

06.2. TEAM ALLOCATION

The teams will be allocated in a pit. Two teams will share a pit box.

06.3. CAMPSITE

Due to the local Government rules, regarding to the drought conditions it is not allowed to have showers in the campsite area. The Circuit allows us to use the building located in the Padock for showers.

Please, we strongly ask you to do not waste water.

In this edition we will extreme the behaviour of all the Team Members located in the campsite.

07. REGISTRATION AND ACCESS TO THE CIRCUIT

LOCATION: Main Entrance (Outside the Circuit)

THE REGISTRATION PROCEDURE FOR:

- Team Members
- Vehicles (load and unload & Parking Areas)
- Campsite

If the registration process has not been completed successfully, team members will not have access to the Circuit of Barcelona- Catalunya, neither the assigned pit nor the campsite area.

07.1. TEAMS REGISTRATION

Upon arrival, a FSS staff member will show you where to park your vehicles until your registration slot. The queues layout and the how to enter procedure will be sent via the official email to the teams on Saturday 5th of August.

FSS staff members will ask you to drive until the Ticket Centre following the arrival order and slots. Team leader must deliver the FINAL TEAM MEMBER DESIGNATION document, signed by all the team members that are going to attend the competition.

At the end of the registration procedure, team leaders will receive all necessary badges, wristbands, vests, and vehicle passes to enter the venue and compete at FSS2023.

Transponder and energy meter will be delivered at the event control.

07.2. DRIVERS REGISTRATION

Driver registration will be at the event control, on Monday, August 7th 2023 at 10:00H. Teams can register no more than 6 drivers. All drivers will receive wristbands that recognise them as drivers after the verification of the following documents:

- Valid Driver
- License Student ID

Those teams which are scheduled in scrutineering prior to the drivers and ESO registration can be registered afterwards.

07.3. ELECTRICAL SYSTEM OFFICER

Each electric team must register, at least, one electrical system officer (ESO) at the event control, on Monday, August 7th 2023 at 10:00H. We will accept a maximum of 4 ESOs. FSS only accepts ESOs with previous validation of the submitted document uploaded on the intranet or by e-mail. Accredited ESOs will receive a specific wristband.

07.4. PARKING & VEHICLE ENTRANCE PASSES

At the time of the team registration, each team will receive the following vehicle passes:

1. Entrance pass for loading/unloading in the paddock. This vehicle pass must be returned to FSS staff once the team has finished. No vehicles will be allowed to park in the paddock. The teams will have 30 minutes to unload the material at the paddock.
2. Vehicle passes for the passenger vehicles to park in the Teams Parking.
3. These passes must be filled out with the following information:
 - License plate number
 - Team's Name
 - Driver's Name
 - Driver's cell phone

Trucks and buses will have their own parking area close to the venue, see truck parking on site plan. All teams must display the pass behind the windscreen, and fill it out with the following information:

- License plate number
- Team's Name
- Driver's Name
- Driver's cell phone

All teams whose vehicles don't display this information before entering the venue, will be penalized.

07.5. VISITORS

- The visitors will be only allowed to enter the Circuit of Barcelona-Catalunya Thursday until Saturday.
- The visitors entrance will be opened 30 minutes prior to the first dynamic event.
- The total number of visitors is limited. Therefore, visitors must be requested in advance during the On-Site team registration.
- Visitors do not have access to the campsite.
- Teams must request Visitors by e-mail (fss@formulastudent.es).

SHARE



08. GENERAL GUIDELINES

08.1. ANNOUNCEMENTS

The event shall be governed by the general guidelines and the schedule provided in the handbook.

The official channel for updates or additional information regarding rules will be:

- Whats App Team Leaders Group
- Event Control Notice Board
- E-mail to all Team Leaders.
- Daily briefing presentation (will be provided by e-mail)

08.2. SURVEILLANCE

Each team is responsible for the security of its car and the equipment in its pits. Do not leave any visible valuables in your pit at any time.

08.3. FIRES AND SMOKING

No open fires are allowed in the PIT AREA & ENGINE TEST AREA. This includes BBQ grilles, oxy-acetylene torches, heaters, cigarettes, etc.

Smoking is strictly prohibited in the DYNAMIC AREA, all BUILDINGS and the PIT AREA.

08.4. FIRE EXTINGUISHERS

Your fire extinguishers must be accessible at any time. All team members must be familiar with their use. At least one fire extinguisher must accompany the car wherever it goes.

08.5. ALCOHOLIC DRINKS

FORBIDDEN

Alcoholic drinks are completely forbidden inside the competition area. If a team does not respect this rule they can be **PENALIZED**.

ALLOWED

The alcoholic drinks are allowed inside the campsite area. Every participant will be accounted responsible of their acts.

08.6. ENERGY METERS

All electric teams must pay 50€ deposit for the energy meter following the link provided in FSS Rules according to ES 9.6.2.

The energy meter will be provided at the event control from Monday 7th of August. The first three teams on the scrutineering order list will receive the energymeters at the event control on Sunday 6th of August, at 18:00h.

Teams must prepare the connectors and cables required for the energy meter operation. These connectors and cables must be ready for operation during FSS 2023 competition.

The teams are responsible to ensure the proper functioning of the energy meter.

IMPORTANT: Energy meter should be dismantled from the car and returned to the energy meter responsible on Saturday 12th by 18:00h on Park Fermé. Those electric teams that reach the Park Fermé can dismantle the energy meter on the Park Fermé. Once the energy meter is given to the organization the receipt will be handed over the team.

The return of the deposit will take place in the Event Control on Saturday 12th of August at 19.00h to 20.30h. Please bring the receipt.

08.7. TRANSPONDERS

The transponder needs to be installed prior the Endurance. The transponder will be supplied at the event control on Friday 11th of August around 18.00h.

All teams must pay 50 € deposit for the TRANSPONDER following the link provided in FSS Rules according ES 9.6.2.

IMPORTANT: Transponder should be dismantled from the car and returned to the energy meter responsible on Saturday 12th by 18:00h on Park Fermé. Those electric teams that reach the Park Fermé can dismantle the energy meter on the Park Fermé. Once the energy meter is given to the organization the receipt will be handed over the team.

08.8. CAMPSITE GENERAL GUIDELINES

Social area will be open until 2am from Monday to Friday. On Saturday it will be open until 3am. Anyone remaining in the social area after these hours will be penalized.

PENALTIES:

- **1st warning:** No points will be removed from the team.
- **2nd warning:** Team will get minus 25 points per person.
- **3rd warning:** Team will be excluded from the FSS competition.

Cleaning services are planned daily. It only includes floor sweeping and garbage bin collection. It is not allowed to leave any garbage on the tables. Please, keep the spaces/tables clean when you finish their use.

POOLS:

Pools are not allowed.

BBQ:

Due to the drought that the country is suffering, the use of barbecues in the social area is strictly forbidden. FSS Organization is in constant contact with the local authorities for this matter. If the restriction is lifted, the teams will be informed in the briefing presentations. Each team must have water bucket ready in case of any kind of fire issue.

08.9. FORMULA STUDENT SPAIN 2023 RULES

Formula Student Spain 2023 competition will comply with Formula Student Rules 2022, which were sent to the participating teams by email.

Formula Student Spain 2023 Rules include some specific rule changes and additions. These rules supersede all other rules. As it has been stated in Formula Student Spain 2023 Rules in ES 1.1.6, the officials reserve the right to revise the schedule of the competition and/or interpret or modify the competition rules at any time and in any manner that is, in their sole judgment, required for safe and efficient operation.

All Officially published documents related to the rules are also mandatory.

Any questions or ambiguities concerning Formula Student Spain 2023 Rules will be resolved by the Formula Student Spain2023 Rules team.

Specific rules-related questions should be sent to the following address (rules@formulastudent.es) by the team's leader. Formula Student Spain 2023 rules team will provide an answer via email.

09. TECHNICAL INSPECTION

LOCATION: Boxes 5 - 14

ELECTRIC CARS

Electric cars must pass seven different inspections/tests before being allowed to go to the Practice Area and compete on Dynamic Events.

- Acumulator Inspection
- Electrical Inspection
- Mechanical Inspection
- Tilt Test
- Rain Test
- Brake Test

ELECTRIC DRIVERLESS CARS

Electric Driverless cars must pass nine different inspections/tests before being allowed to go to the Practice Area and compete on Dynamic Events.

- Acumulator Inspeition
- Electrical Inspection
- Driverless Inspection
- Mechanical Inspection
- Tilt Test
- Rain Test
- Brake Test
- Emergency Brake System Test

COMBUSTION CARS

Combustion cars must pass five different inspection/tests before being allowed to go to the Practice Area and compete on Dynamic Events.

- Mechanical Inspection
- Tilt Test
- Noise Test
- Brake Test

COMBUSTION DRIVERLESS CARS

Combustion Driverless cars must pass seven different inspections/tests before being allowed to go to the Practice Area and compete on Dynamic Events.

- Pre-inspection
- Mechanical Inspection Driverless Inspection
- Tilt Test
- Noise Test
- Brake Test
- Emergency Brake System Test

Only when a car has successfully passed all the different inspections and the corresponding stickers are on the bodywork it can compete in the dynamic events and practice at the test track.

09.1. PRE-INSPECTION

LOCATION: Pits 11 to 17

Pre-inspection must be completed latest before the tilt test.

The driver egress is mandatory for all drivers. Before participating in a dynamic event, the driver must have passed the egress test.

The following items must be presented for pre-inspection:

- All helmets
- All driver's equipment and other safety gear
- Two sets of four tires mounted on rims for dry and wet driving conditions
- Two unused and in date fire extinguishers

INSPECTION RESPONSIBLE PERSON

To accelerate the technical inspection process (for E and M scrutineering) and accumulator check, the team must appoint one team member (for the E-teams this must be one of the registered ESOs), who will be responsible for the technical inspection. This team member should be familiar with the car and all the inspection points of the technical inspection sheet. He must be able to show the scrutineers the compliance of the car with respect to all the inspection points. This team member will also assure that the car is ready for inspection. This includes that all documents, test samples and tools needed for scrutineering are available at the inspection.

During inspection may this team member may have to perform the technical inspection autonomously, observed by the scrutineers.

He should be able to answer all their questions regarding the scrutineering. If this team member is not able to perform any of these requirements or the car is not ready, the technical inspection will be stopped, and the team will have to go back to the box. A re-try for scrutineering can be done via re-scrutineering.

Only when a car has successfully passed all the different inspections and the corresponding stickers are on the bodywork it can compete in the dynamic events and to practice at the test track.

09.2. SCRUTINEERING

LOCATION: Pits 11 to 17

There will be one waiting queue that will start at street behind the scrutineering area, so any team member can guide the car up to the queue. FSS has the right to reorder the scrutineering queue in case the scrutineering slot of a team coincides with a time slot of the team for a static event.

Let us remember that if the scrutineers feel that the car is NOT in “ready-to-race” condition the inspection process will be stopped and the team must leave the scrutineering area (Rule IN1.3.6.).

If you do not finish the scrutineering for any reason you have to leave the scrutineering area and fix all problems.

Four team members maximum in the inspection box. For electric cars one of these four team members must be the ESO. For Driverless cars one of these four team members must be the ASR.

A laptop is required to check the documents uploaded to intranet (SES, IAD, ESF and ASF).

The attachment of any on-board camera must be checked during the technical inspection and marked.

ELECTRIC CARS: YOU MUST BRING

- Copies of FMEA
- A test piece of Impact Attenuator
- For monocoque frames, laminated test samples as documented on the SES
- The tallest driver of the team must be in attendance for roll bar height
- Quick Jack + Push bar
- Tools
- Milliohm meter
- Energy Meter
- All accumulator containers to be used during the event
- Accumulator Container Hand Cart
- Charger
- Tools needed for (dis-)assembly of Accumulator Container
- PDF or print-out of rule questions, if necessary
- Pictures of accumulator internals, if necessary
- Datasheets for used wiring, insulation materials, tractive system components and container material with needed values highlighted
- Samples of all wire types used inside the accumulator container
- Samples of all used accumulator container material
- GLVS battery or cell datasheet
- For self-developed GLVS battery packs: an opened battery pack
- Datasheets for used wiring, insulation materials, and TS components
- Samples of all wire types used for the tractive system
- Fully assembled spare boards of all inaccessible TS boards
- Photographs of all inaccessible TS connections
- Laptop and cables to display data of the AMS

COMBUSTION VEHICLES: YOU MUST BRING

- A test piece of Impact Attenuator
- For monocoque frames, laminated test samples as documented on the SES
- The tallest driver of the team must be in attendance for roll bar height
- Quick Jack + Push bar
- Tools

ADDITIONALLY, FOR DRIVERLESS

- RES remote control
- Source code of EBS supervisor, either digital or hardcopy

09.3. TILT TABLE TESTING

YOU MUST PASS BEFORE:

- Scrutineering (including pre-inspection)

SAFETY GUIDELINES

- Four team members maximum in the Tilt Test Area
- Tallest driver in the car
- Switch off all engines and master switch off, push car on and off table
- Attach a strap to rollover hoop and side of table which is to be elevated
- Inside wheels to be placed against the guard of the tilt table
- Use absorbent material to soak up leaks
- Keep a fire extinguisher at hand
- Combustion cars must fill their tanks to the full mark prior to tilt table testing
- The vehicle should be oriented on the tilt table in the direction that is most likely to create spillage
- The person in charge at the tilt table must sign an inspection form, which travels with the car

09.4. RAIN TESTING (ONLY FOR ELECTRIC CARS)

YOU MUST PASS BEFORE:

- Scrutineering
- Tilting Table Test

SAFETY GUIDELINES

- Powered wheels off the ground
- No driver on board
- TSAL ON

09.5. NOISE TEST

YOU MUST PASS BEFORE:

- Scrutineering
- Tilting Table Test

COMBUSTION VEHICLES

Teams must bring a laptop to monitor for reaching a constant engine speed more precisely and to show the engine rpm monitored from the ecu on the laptop.

If the vehicle is unable to pass in three attempts, the car must be repaired and then brought back for retest. The vehicle will not be allowed to compete without passing this test.

09.6. BRAKE TESTING

YOU MUST PASS BEFORE:

- Scrutineering
- Tilt Table Test
- Rain test (Electric only)
- Noise Test

For FSC, each driver will be instructed as to the proper procedure for the brake test. With the car at the start line of the station a green flag (or similar signal) will be used to indicate the start of each run. The driver must accelerate (typically getting into 2nd gear) until reaching the braking area; once inside this area, the driver must apply the brakes with enough force to demonstrate full lock-up of all four wheels. If the vehicle is unable to pass the test in three attempts, the car must be repaired and then brought back for re-inspection.

For FSE, each driver will be instructed as to the proper procedure for the brake test. With the car at the start line of the station a green flag (or similar signal) will be used to indicate the start of each run. The driver must accelerate on a short straight until reaching the braking area. Before entering in this braking area, the tractive system must be switched off by the driver and the brake pedal must be actuated as far as possible. The brake test is successful if all four wheels lock.

Note:

It may take up to 5 seconds until the Tractive System Active Light goes off after shutting down the tractive system. If the vehicle is unable to pass the test in three attempts, the car must be repaired and then brought back for re-inspection.

Please note that re-inspection may be required if a work is performed on the vehicle's brake system or if the vehicle is involved in an incident which results in vehicle damage.

For Driverless cars, the EBST will be conducted after having approved the the Driverless Inspection.

10. STATIC EVENTS

10.1. BUSINESS PLAN PRESENTATION EVENT

LOCATION: Business Plan Rooms

During the Business Plan Presentation event, competitors may present their business model to an imaginary group of potential investors or high executives from a big company.

The presentation should include all the aspects for the feasibility of the business model: such as marketing, manufacturing, logistics, design, etc. The technical aspects of the vehicle should be also included in the presentation, but just to reinforce the whole project, not as the main issue. Competitors should promote the idea of the marketplace and the targeted customer. Furthermore, they should show how their design fits into its expected market and how it is completed to a business model. Competitors must convince the judges that their prototype and the related concept represent a profitable enterprise for the manufacturers or investors. Furthermore, the business plan presentation will include the main financial statements, such as a Capex plan, R&D Investments, Profit & Loss Statements, Balance Sheet and Cash Flow projections.

In summary, competitors need to define the business model and convince to the tentative investors (Business Angels) that the business is profitable. The organisation recommends teams to be more than 5 minutes before their time slot, make sure the team members are well prepared and they bring all the necessary equipment for the event.

The business plan presentation event is divided in four main parts: Business Plan Executive Summary, Business Plan Pitch Video, Deep Dive Topic, and Presentation.

BUSINESS PLAN EXECUTIVE SUMMARY

The Business Plan Executive Summary should contain a brief description of the team's business model and may content the relevant information to be presented during the presentation part. This document must not exceed one page. Teams are advised to include financial information in their executive summary, for instance Profit & Loss Statement, Balance Sheet, Cash Flow, R&D Expenses, Material Fixed Assets, among others.

BUSINESS PLAN PITCH VIDEO

The Business Plan Pitch Video should be considered the first impression of the business idea and must contain the relevant investment figures. The objective is to convince the potential investors or partners that the team's presentation is worthy of their time. The Business Plan Pitch Video must not exceed a length of 30 seconds and must be in a common video format as specified in the FSS rules.

DEEP DIVE TOPIC

Judges after receiving the Business Plan Executive Summary and the Business Plan Pitch Video will ask competitors to provide a specific deep dive topic. At FSS 2023 the proposed deep dive topic is as follows: "Please develop a sensitivity analysis in your BP due to changes in sales (reduction of -20%), Cost (Increase +15%), Investments (Increase +10%) and I+D Expenses (Increase +15%). What will be the impact in your P&L and Cash Flow?"

PRESENTATION

The Business Plan Presentation will be limited to a maximum of 25 minutes. The judges will stop any presentation exceeding that time. The Business Plan Presentation will follow this breakdown:

- General and team introduction – 5 minutes
- Business Plan Presentation – 15 minutes
- Deep Dive Topic – 5 minutes

Furthermore, judges will follow with a Q&A session, where teams will need to answer questions relating to the presentation. Judges will use at least 5 minutes for this Q&A session.

BUSINESS PLAN PRESENTATION FINALS

Top teams from the full ranking will qualify to the Business Plan Finals.

Finalist teams will be notified by the FSS staff with sufficient notice if they need to take part in the Business Plan Presentation Finals.

10.2. ENGINEERING DESIGN EVENT

LOCATION: PITS 7 to 10

PROCEDURE FOR THE ENGINEERING DESIGN EVENT

During the Engineering Design Event, teams will have the opportunity to showcase their car design to a set of experienced judges. Most of the session is performed in a Q&A format where judges will be distributed among the following categories:

- Technical Management
- Aerodynamics and Cooling
- Vehicle Dynamics and Suspension
- Structural
- Powertrain
- Low Voltage Electronics and Software
- [DV Only] Overall Autonomous Systems Concept
- [DV Only] Sensors and Perception
- [DV Only] Localization and Mapping
- [DV Only] Planning and Control

The teams will have a 45-minute design slot including:

- A 5 min presentation of the main design goals along with one or multiple pictures of the car
- A 40 min Q&A session. Teams can showcase their engineering documentation, test results, and/or sample parts. Please, ensure you have documents, slides, pictures, etc. ready to show to the judges with relevant information.

Each team is allowed up to 15 individual presenters.

The 45-minute time will only count from the start of your presentation.

The organisation recommends teams to be on their assigned time slot with sufficient advance time, to make sure the car is in race-ready condition and that all the team members are well prepared.

Covers or parts of the vehicle can be removed or disassembled during the design event for the team to show their design concepts.

[EV Only] Opening of accumulator containers is strictly prohibited. If a team desires to show the Judges a set of cell stacks the cells must be fully discharged and shortened. This process cannot be done on-site.

[EV Only] The Tractive System Master Switch (TSMS) must be switched off for the entire Design Event.

ENGINEERING DESIGN EVENT FINALS

Top teams from each vehicle class will qualify to the Engineering Design Final. Officials can at their discretion decide to cancel the Engineering Design Final of a particular class (EV, CV, DV). In that case, the final scoring of top teams will be based on the initial Engineering Design event presentations.

The design final is not public.

Finalist teams will be notified by the FSS staff with sufficient notice if they need to take part in the Engineering Design Finals.

The final scoring will be determined based on the judges' discussion and criteria.

10.3. COST & MANUFACTURING EVENT

LOCATION: PITS 7 to 10

During the Cost & Manufacturing event, a discussion with the judges will take place, next to the team's vehicle. The discussion is split into two parts: the Bill of Material (BOM) Discussion and the Cost Understanding.

The organisation recommends teams to be on their assigned time slot with sufficient advance time, to make sure the car is in race-ready condition and that the members presenting the event are prepared with the required documentation ready for the judges.

For FSS 2023 a DBOM for the "Engine and Drivetrain" must be submitted.

For FSS 2023 a CBOM for the "Brake and Steering System" must be submitted.

Other DBOM or CBOM detailed systems analysis will be considered if they have already been submitted to the competition.

BILL OF MATERIAL DISCUSSION

Cost Report Documents (CRD) have been requested to teams and they must be brought either as a hard copy or digital version to the event discussion. The judges will determine if all parts and processes have been included in the Cost Report. This event is judged on the quality and accuracy of the document and judges will add penalties if errors are detected or if items are omitted.

COST UNDERSTANDING

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

PROCEDURE FOR THE COST & MANUFACTURING EVENT

The Cost & Manufacturing event will last for 45 minutes and it will follow this structure:

- A 15 min presentation of the car and the team
- A 20 min Q&A session to cover the Bill of Material Discussion and the Cost Understanding and the Real Case
- A 10 min Judges' deliberation

Each team is allowed up to 4 individual presenters.

The 45 min time will only count from the start of your presentation.

COST & MANUFACTURING EVENT FINALS

Finals will be performed at FSS 2023.

Top teams will qualify to the Cost & Manufacturing Final.

The Cost & Manufacturing final is not public.

Finalist teams will be notified by the FSS staff with sufficient notice if they need to take part in the Cost and manufacturing Finals.

For the cost and Manufacturing finals a second Real Case will be proposed.

The final scoring will be determined based on the judges' discussion and criteria.

11. DYNAMIC EVENTS

DYNAMIC EVENTS BRIEFING

No team nor Driver briefings will be carried out each day in FSS2023. Instead, a daily presentation will be sent to the team Leaders every day before 23:00h.

A unique dynamic events briefing will be carried out on Wednesday

LOCATION: Press Room

ASSISTANTS: ALL TEAM LEADERS must attend Dynamic Events briefing

ANY DRIVER who wants to drive in the dynamic events must attend the dynamic events briefing

[EV only] All the ESOs must attend the dynamic events briefing, otherwise they won't be allowed into the dynamic area

TEAMS not attending the dynamic events briefing will be PENALIZED

GOAL: Present an overview of the event and details of each specific dynamic event

11.1. GENERAL INFORMATION

Every team receives 4 Dynamic pass vests (The driver pass is included in this 4 passes).

Dynamic passes are necessary to enter in the dynamic area.

Practice Areas, Welding Area, Engine Test, Charging Area and Fuel Station are also considered dynamic areas.

Pre-inspection will be opened 30 min before the start time scheduled for each dynamic event.

No tents, pavilions, tarps, and brooms are allowed in dynamic areas. Only handheld umbrellas allowed. Entering the area after inspection, means "Ready to Race" with driver belted, car adjustments done, cameras on, no tire protections, no tires cleanings etc. Vehicles which are not in "Ready to Race" conditions will be sent back. After inspection area, tool carts are not allowed. After any run the driver must leave the course and drive slowly back to the start line for the second run, to the driver change or to the exit lane.

DYNAMIC EVENTS CLOSING TIME

This point only applies to SkidPad, Acceleration and AutoCross.

The dynamic events closing time is specified in the Schedule (pages X and Y).

The closing time will be updated in the event's entrance if the officials consider that a major incident has delayed the event's schedule.

Once the event closes, only the teams that are in the event's queue (prior to the pre-scrutineering) will be allowed to run. No teams will be allowed to join the event's queue after the closing time indicated in the event's entrance.

WEATHER

Under normal conditions the track is declared dry.

If it is necessary to declare damp or wet conditions, there will be signs and announcements at the dynamic area.

11.2. EVENTS

ACCELERATION

LOCATION: Official Track

There will be two queues: one for the first run of the team and another queue for the other runs. [CV & EV only] It's up to each driver to choose whether to drive both runs in a row. If the driver wants to do the second run, it may be done immediately after the first run.

[CV & EV only] The Acceleration will take place during twilight. FSS organization will guarantee appropriate lighting equipment to have a safe event. Special equipment may be used to notify each driver of the start of a run, instead of using a green flag. FSS organization recommends teams to use night helmet visors to ensure good visibility during the event. Teams will be allowed to mount lights on the vehicle just for this dynamic event, according with the requirements specified in rule ES 6.1.3.

SKID PAD

LOCATION: Paddock

There will be two queues: one for the first run of the first driver of the team and the other one for his second run and both runs of the second driver.

It's up to each driver to choose whether to drive both runs in a row.

If the driver wants to do the second run, it may be done immediately after the first run.

Only team members with a Dynamic Pass can wait with the car at the queue.

AUTOCROSS

LOCATION: Official Track

There will be a course walk prior to the event.

There will be two queues: one for the first run of the team and another queue for the other runs.

It's up to each driver to choose whether to drive both runs in a row. Once finished the first run, the driver has the option to exit the track or immediately drive the second run. If the driver exits the track, he/she will need to go to the credential control to drive the second run.

If a yellow flag is shown to a driver during the lap, the run does not count, and an immediate rerun is given for that driver.

In case a car stalls or breaks down, team members can only recover the vehicle under the supervision of the track officials. Short breaks during the event will be arranged to allow recovery of the vehicles.

AUTOCROSS (DV ONLY)

LOCATION: IN Torre

There will be a course walk prior to the event.

There will be two queues: one for the first run of the team and another queue for the other runs.

TRACKDRIVE (DV ONLY)

LOCATION: IN Torre

All cars that finish the Track drive event will be conducted directly to the Park Fermé. Any car (Combustion or Electric) can be inspected for rules compliance after the Track drive. [CV only]

All cars that finish the Track drive event will be conducted directly to the refuelling station. [EV only] The energy meter responsible will collect the energy data from all cars that finish the Track drive.

ENDURANCE

LOCATION: Official Track

The results of the Autocross event will serve to decide the order for the Endurance event.

The Endurance event will consist of different stings.

Only team members with a valid a Dynamic Pass may follow their car up to the staging area.

During the driver change, two scrutineers will check the car.

Cars who get a blue flag please drive into the next overtaking lane. Please start braking / slowing down when you are in the overtaking lane NOT before. Wait until the track marshal shows green flag to re-enter to the track.

All cars that finish the Endurance event will be conducted directly to the Park Fermé.

PARC FERMÉ

LOCATION: Scrutineering Boxes

All Cars that complete the Endurance will go to the Parc Fermé. The energy meter responsible will collect the energy data from the cars. Any car (Combustion or Electric) can be inspected for rules compliance after the Endurance.

12. AWARDS



COMBUSTION VEHICLES

Combustion Champion Formula Student Spain
Combustion 2nd Formula Student
Combustion 3rd Formula Student Spain



ELECTRIC VEHICLES

Electric Champion Formula Student Spain
Electric 2nd Formula Student Spain
Electric 3rd Formula Student Spain



DRIVERLESS VEHICLES

Driverless Champion Formula Student Spain



13. MEDIA

STREAMING

To be able to view all the events this year you can go to the official FSSTV channel “@FormulaStudentSpain” in Youtube, the endurance will be broadcast on Esport+ (<https://www.esportplus.tv/>). You will only need to register in 2 min and you will be able to access to see the endurance on Saturday.

UPLOAD PHOTOS

The photos will be uploaded every night to the following site: <https://mediaformulastudentspain.smugmug.com/platform>. If you are going to use any photo, please do not cut the watermark and mention the photographer.

MEDIA LINKS

Youtube:

<https://www.youtube.com/@FormulaStudentSpain>

Instagram:

<https://instagram.com/officialfsspain?igshid=MmlzYWVINDQ5Yg==>

Twitter:

https://twitter.com/i/flow/login?redirect_after_login=%2Ffs_spain

Facebook:

https://www.facebook.com/FSSpain/?locale=es_LA

14. TEAMS PARADE

In this edition we will have the FSS TEAMS PARADE. It will take place on Monday, 7th August.

All the teams will be located in the Main Straight of the Circuit including the car, with your "best look".

This activity will be part of the Opening with interviews and presentation of all the teams.



15. ADDITIONAL INFORMATION

15.1. GENERAL SERVICES

PHARMACIES

MIL·LENARI	Plaça Mil·lenari, 7	08160 Montmeló	+34 935 722 817
MIL·LENARI (2)	Passatge Monturiol, 7	08160 Montmeló	
MARIA ANTONIA			
FAJAS FANES	Av. Pompeu Fabra, 10	08160 Montmeló	+34 935 680 288
CASULLERAS	Carrer de la Diputació,17	08160 Montmeló	+34 935 681 718
ISERN CASTRO SCP	Avinguda de Vilardebó, 6	08160 Montmeló	+34 935 684 895
BALCELLS, C.B.	Carrer Federico Garcia Lorca, 4	08170 Montornès del Vallès	+34 935 680 899

SUPERMARKETS

CONDIS	Carrer Major, 13	08160 Montmeló	+34 935 681 863
DIA	Carrer de la Diputació, 6	08160 Montmeló	
DIA	Av. Dels Rabassaires s/n	08100 Mollet del Vallès	+34 902 453 453
SORLI DISCAU	C/ Federico Garcia Lorca, 14	08160 Montmeló	+34 935 610 606
LIDL	Av. Del Riu Mogent, 6-8	08170 Montornès del Vallès	+34 902 243 222
MERCADONA	C/ del Comte Montemolin	08150 Parets del Vallès	+34 936 343 436
MERCADONA	C/ Can Flequer	08100 Mollet del Vallès	+34 938 823 358
CAPRABO	C/ Gran Vial, 1	08170 Montornès del Vallès	+34 935 684 404

RESTAURANTS

TELEPIZZA	Carrer de Can Parera, 20	08170 Montornès	+34 935 722 728
VIENA	C/ de Verneda del Congost, s/n	08160 Montmeló	+34 935 689 940
Mc DONALDS PARETS	Carrer Comte Montemolin, 16	08150 Parets del Vallès	+34 935 730 582
Restaurante FAMILIA FELIZ	Avinguda del Mil·lenari	08160 Montmeló	+34 935 681 052
Restaurant & Lounge 113	Carrer Vic,113	08160 Montmeló	+34 935 687 812
Bar Restaurante EL PEDREGAL	Carrer de la Indústria,	08160 Montmeló	+34 935 683 825
Bar Restaurante CAN RAIGUER	Pol. Ind. El Raiguer - Nau 19	08170 Montornès del Vallès	+34 935 723 649
Restaurante VIA AUGUSTA	C/ Major, 51	08160 Montmeló	+34 935 682 866

AUTOMOTIVE PARTS SUPPLIERS

MOTOCARD	Carrer Vlaència, 511	08005 Barcelona	+34 932 650 224
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TIPS FOR WEBSEARCH & USEFUL WEBS

Ajuntament de Montmeló	www.montmelo.cat
Circuit de Barcelona - Catalunya	www.circuitcat.com
Ajuntament de Barcelona	www.bcn.cat/en

BANKS

BBVA	Av. Pompeu Fabra, 16	08160 Montmeló	+34 935 720 029
Banco Santander	Av. Pompeu Fabra, 1	08160 Montmeló	+34 935 680 092
Banco Popular	C/Major, 2	08160 Montmeló	+34 935 799 291
Banc Sabadell	C/Major, 3	08160 Montmeló	+34 902 323 000
Caixa Penedès	C/Major, 16	08160 Montmeló	+34 935 720 866

TYRE CHARGING SERVICE

Pneus Expert	Carrer Telègraf, 20 Open weekdays from 9h to 19h & Saturday from 9h to 13h	08160 Montmeló	+34 938 601 792
PINCHAZOS Y NEUMATICOS 24H	Carrer Tarragona, 101-103 Open 24 h	08014 Barcelona	+ 34 934 261 356

16. SPONSORS

GOLD SPONSOR



One more year NISSAN will support FSS2023.

Since the first edition, the NISSAN Technical Center Europe in Spain (NTCE-S) has collaborate with FSS.

FSS and NISSAN share common values. The Passion of driving innovation to electrification and to the autonomous driving (ADAS-driveless).

Do what others don't dare to do, is part of NISSAN DNA and it represents the fundamental values of the FSS competition, were more than 40 teams will bring their innovations to the track this year.

SILVER SPONSOR



The Bosch Group is a leading global supplier of technology and services. It employs roughly 421,000 associates worldwide (as of December 31, 2022). The company generated sales of 88.2 billion euros in 2022. Its operations are divided into four business sectors: Mobility, Industrial Technology, Consumer Goods, and Energy and Building Technology. As a leading IoT provider, Bosch offers innovative solutions for smart homes, Industry 4.0, and connected mobility. Bosch is pursuing a vision of mobility that is sustainable, safe, and exciting. It uses its expertise in sensor technology, software, and services, as well as its own IoT cloud, to offer its customers connected, cross-domain solutions from a single source. The Bosch Group's strategic objective is to facilitate connected living with products and solutions that either contain artificial intelligence (AI) or have been developed or manufactured with its help. Bosch improves quality of life worldwide with products and services that are innovative and spark enthusiasm. In short, Bosch creates technology that is "Invented for life." The Bosch Group comprises Robert Bosch GmbH and its roughly 470 subsidiary and regional companies in over 60 countries. Including sales and service partners, Bosch's global manufacturing, engineering, and sales network covers nearly every country in the world. With its more than 400 locations worldwide, the Bosch Group has been carbon neutral since the first quarter of 2020. The basis for the company's future growth is its innovative strength. At 136 locations across the globe, Bosch employs some 85,500 associates in research and development, of which nearly 44,000 are software engineers.

The company was set up in Stuttgart in 1886 by Robert Bosch (1861–1942) as "Workshop for Precision Mechanics and Electrical Engineering." The special ownership structure of Robert Bosch GmbH guarantees the entrepreneurial freedom of the Bosch Group, making it possible for the company to plan over the long term and to undertake significant upfront investments in the safeguarding of its future. Ninety-four percent of the share capital of Robert Bosch GmbH is held by Robert Bosch Stiftung GmbH, a charitable foundation. The remaining shares are held by Robert Bosch GmbH and by a corporation owned by the Bosch family. The majority of voting rights are held by Robert Bosch Industrietreuhand KG, an industrial trust. The entrepreneurial ownership functions are carried out by the trust.

SILVER SPONSOR



Employing a Model-Based Design approach to the automotive design process enables teams to design, test, validate and share their models within one environment. Using industry-standard tools such as MATLAB and Simulink help students tackle real engineering problems. For more information visit:

<https://www.mathworks.com/academia/student-competitions/formula-student-spain.html>

The team from MathWorks will be onsite Wednesday to Friday to help you develop your skills in Battery Modeling and Raceline Optimization, whilst also giving you the chance to learn more about our Automated Driving Toolbox and Simscape Templates.

Whether you need help getting started or you want to take your current project to the next level, just stop by the MathWorks and ask our technical experts.

BRONZE SPONSOR



“Gestamp is a leading multinational company specialized in the design, development and manufacture of highly engineered metal components for the world’s largest vehicle manufacturers. It’s among the TOP 10 component suppliers based in Europe according to the latest Automotive News US ranking. With more than 25 years of experience in the sector, the Spanish company develops products with an innovative design to produce safer and lighter vehicles, offering lower energy consumption and lower environmental impact. Its products cover the areas of body in white, chassis and mechanisms.

With a strong international presence, the company is present in 24 countries with 115 production plants (5 under construction), 13 R&D centers and a global workforce of close to 43,000 employees, expanding its market footprint every day. Gestamp’s growth has been driven by its commitment to innovation in technologies and new products, a close relationship with its customers and a clear investment in attracting talent to continue facing the challenges that the components sector faces in the coming years”.

MEDIA PARTNERS



COLLABORATORS



HANDBOOK HNBK FSS 2023

13TH EDITION

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<http://goo.gl/Xrv14>



instagram.com/officialfsspain/



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