

2017 Student Formula Japan – Monozukuri Design Competition – Participation Rules

(Issued: December 19, 2016)

This competition is held by JSAE according to the 2017-18 Formula SAE® Rules, the Local Rules and the Participation Rules.

Article 1 Competition Name

2017 Student Formula Japan – Monozukuri Design Competition –

Article 2 Date

Tuesday, September 5 to Saturday, September 9, 2017

* All the date is scheduled by Japan Standard Time.

*The detail time schedule of the competition will be announced by Official announcement later.

Article 3 Venue

ECOPA (Ogasayama Sports Park), Shizuoka Prefecture

Article 4 Organizer

Society of Automotive Engineers of Japan, Inc. (JSAE)

Article 5 Competition Officers

Chairman:	Hiroshi Takemura
Vice Chairmen:	Tokuhisa Nomura Takao Kubozuka
Implementation Committee Chairman:	Tadashi Tamasho
Technical Inspection Captain:	Takanari Matsuura
Static Events Captain:	Hirohito Hayashi
Dynamic Events Captain:	Hirohito Nakazawa
EV Captain:	Akira Kabasawa

Article 6 Competition Classes

1. ICV Class
2. EV Class

Article 7 Schedule to the 2017 Student Formula Japan

Tuesday, January 10

Start of Participating Application



Friday, January 27

Deadline for Participating Application

Notice: The EV class teams must submit “Electrical Systems Officer and Electrical Systems Advisor Form” by the deadline of January 27, 2017.



Wednesday, February 1

Notification of the Applicants on the official website.

Teams on the Pending List may pay the registration fee by the payment deadline.



Friday, February 24

Deadline for declaration of **Alternative Frame Rules** and **Electronic Throttle Control**

Notice: Teams using the AF Rules / Electronic Throttle Control must declare by the deadline of February 24, 2017. If you use them, fill out the application form and submit it to JSAE by email:

formula@jsae.or.jp



Friday, May 12

– EV Class Only –

Deadline for Submission of **Electrical System Form (ESF)** and **Failure Modes and Effects Analysis (FMEA)**

– ICV Class using ETC Only –

Deadline for Submission of **Failure Modes and Effects Analysis (FMEA)**



Monday, May 22

Deadline for Submission of **Structural Equivalency Sheet** and **Impact Attenuator Data**



Wednesday, June 7

Deadline for Submission of **Design Report** and **Design Spec Sheet**



Friday, June 16

Postmarked Deadline for Submission of **Cost Report** (Both of the Printed Documents and CD-R)



Tuesday, July 4

Deadline for Submission of **Business Logic Case**



Friday, July 28

Announcement of **Document Screening Result** on the official website



Friday, August 10

Deadline for Submission of **Written Oath, Certificate of Insurance Coverage, Student Identification Card, Driver's License**



Friday, August 25

Deadline for Submission of **Shakedown Certificates**



September 5 to 9

2017 Student Formula Japan

Article 8 Vehicle Production Regulations

The vehicles shall be fabricated complying with the 2017-2018 Formula SAE® Rules and the Local Rules for 2017 Student Formula Japan.

Article 9 Participation Requirements

The team shall fulfill the following requirements;

1. Team : Each educational institute shall be permitted to register only one team and one vehicle.

- 1) However, multiple teams shall be permitted if the institute has multiple campuses.
- 2) It is permitted that one educational institute will have one team for ICV Class and one team for EV Class at the 2017 SFJ. In that case, each team may share their team members, drivers and faculty advisors at the competition.
- 3) Teams which are formed with members from two or more educational institutes can be treated as a single team.

2. Team Members

- 1) Team members shall be 18 years old or above and the students of national colleges of technology, junior colleges, universities, graduate schools, or similar education / training institutes. Individuals who have graduated within seven months prior to the competition date are also eligible.
- 2) All team members shall be the students of the educational institutes that are registered for the competition.
- 3) Drivers participating in the competition shall be 18 years old or above and possess a valid government-issued driver's license.
- 4) The team member must submit the following documents by the deadline of August 10, 2017:
 - a. Written Oath
 - b. Certificate of Insurance Coverage (copy)
 - c. Student Identification Card (copy)
 - d. Driver's License (copy)

3. Faculty Advisors (FA)

- 1) During the period of competition, the FA shall be responsible for all team activities even regarding non-competition matters such as safety, health, and the attitudes of team members, and shall also accompany the team throughout the competition.
- 2) The FA shall be responsible for all team activities as a representative of each educational institute and shall register for the competition in the same way as the team members.
- 3) The FA shall be full-time members of the faculty staff of the educational institute to which the team belongs.
- 4) A team may have multiple FAs.
- 5) Teams without FA shall not be allowed to participate. If the FAs are absent during the competition, the team members shall not be allowed to work in the pit area and participate in events during that period of absence.
- 6) During the period of competition, the FA shall accompany the team when using any facility or the like loaned by other educational institute, and application shall be made in advance to the organization for approval.
- 7) If the educational institute join in both ICV and EV Class, the FA who is both for ICV and EV Class is acceptable.

- 8) Teams which are formed with members from two or more educational institutes must have at least one FA each from every institute.

4. Electrical System Officer (ESO) and Electric System Advisor (ESA) – EV Class Only

- 1) ESO (Not ESA) shall accompany the team throughout the competition period.
- 2) It is acceptable for the faculty advisor to be the ESA if all the requirements are met, see the 2017-2018 Formula SAE® Rules, A.5.3.
- 3) The ESA must have significant experience of the technology that is being developed and its implementation into vehicles or other safety critical systems such that they are adequately qualified to advise the team on their proposed electrical and control system designs.

NOTE: It may be not necessary for ESA to be educational institute officials. Teams may have more than one person for ESA to achieve this requirement.

- 4) Teams must submit ESO/ESA form by the deadline of January 27, 2017.
If teams that don't submit ESO/ESA form by the final deadline of 14:00 February 1, 2017, their participating application shall be voided.

5. Insurance

All team members and FA (and ESO, ESA – EV Class only) must have an effective insurance to cover injury and medical treatment during the period of the competition. In addition, all participants shall be requested to sign a Written Oath.

NOTE: It is highly recommended that teams have the insurance covering their activities through a year.

Article 10 Team Participating Application

- 1. Application:** From 10am, Tuesday, January 10, 2017
- 2. Application Deadline:** To 2pm, Friday, January 24, 2017
- 3. How to Apply**

Please apply online via the following website.

https://tech.jsae.or.jp/formula/2017team_en/registration.aspx

- 4. The Number of Registered Teams:** The upper limit is **98 teams at most**.

The registered teams are determined by following priorities in order:

First Priority: Best Twenty Teams at Overall Score in 2016 and 2015 Student Formula Japan.

Second Priority: Best Twenty Teams at the World Ranking* at 10am, January 10, 2017.

*ICV: <http://mazur-events.de/fs-world/C/>

*EV: <http://mazur-events.de/fs-world/E/>

Third Priority: In order of application arrival

5. Settling the Registration

The first **Pending List** and **Waiting List** will be released on Wednesday, February 1, 2017 on the official website. The deadline for payment of registration fee is at *11:59 pm on Friday, February 10, 2017 on the official website.

*At the local time of each teams.

NOTE: The Pending List is the list of teams which may register 2017 Student Formula Japan if they pay the registration fee. The Waiting List is the list of teams which have a possibility of adding to the Pending List.

- After the Application, Teams on the Pending List and Waiting List are screened in the above priority orders. Teams above the 98th are on the Pending List and below 99th are on the Waiting List.
- Teams complete their registration by paying the registration fee only after they are placed on the Pending List.
- Teams must submit their payment certification image to JSAE by email: formula@jsae.or.jp
- If teams don't submit their payment certification image by the payment deadline, they are regarded as withdrawals and removed from the Pending List.
- After Monday, February 13, 2017, the pending list is going to be updated every Monday and its deadline for payment of registration fee is *11:59 pm on Friday at the same week.
- If the number of teams that complete their registration doesn't reach 98 teams at the time of February 10, some teams on the Waiting List are added to the Pending List in priority orders.
- Teams on the Waiting List CANNOT pay the registration fee. The registration fee once paid will not be refunded under any circumstances.

6. Additional Application

If the number of Registered Teams doesn't reach the upper limit (98 teams), there is a possibility of additional application after January 30, 2017.

7. Registration Fee: There are two class of the registration fee.

- 1) If all team members (including Faculty Advisors (FA)) are members of one of the following societies: (1) SAE International (2) SAE Australasia (3) SAE Brazil (4) ATA (5) IMechE (6) VDI or (7) JSAE ----- ¥108,000 per team (tax included)

Notice: ALL members must be qualified as a member of one of (1)-(7) societies and input their Membership Number at their registration.

- 2) In all other cases: ----- ¥216,000 per team (tax included)

Note: The consumption tax is including. It's charged to not only domestic participants but also overseas participants in accordance with the law. All bank charges must be paid by each team.

4. Payment: Bank Transfer ONLY as follows

- 1) Bank Details:

Bank Name: The Bank of Tokyo-Mitsubishi UFJ, Ichigaya Branch
(Bank No.: 0005-014)

Account Holder: Society of Automotive Engineers of Japan, Inc.

Account No.: 1299678 (Ordinary)

SWIFT BIC: BOTKJPJT

SWIFT code: BOTKJPJTXXX

Bank Address: 4-8-20 Kudan-minami, Chiyoda-ku, Tokyo, 102-0074 Japan

Article 11 Document Submissions

Document Submissions are as follows.

Submission delay is subjected to the penalty.

Documents to be Submitted	Submission Deadline	Submission Methods <Form/Capacity>	Important Notes (penalties, etc.)
Electrical Systems Officer and Electrical Systems Advisor Form – EV Class Only – (Electronic Data)	2pm, Fri, January 27	Upload to the Team Page with ESO/ESA Form<Excel>	Submission delay will incur a penalty of 10 points a day (Delay Deadline is 2pm, Wed, February 1).
Electrical System Form – EV Class Only – (Electronic Data)	2pm, Fri, May 12	Upload to the Team Page <PDF/-15MB>	Submission delay will incur a penalty of 10 points a day (Delay Deadline is 2pm, Wed, May 17). Teams shall be required to re-submit any documentation judged as “insufficient” in any way several times. The final deadline of the resubmission is 2pm, Thurs, August 10. *ICV Class using ETC must submit FMEA by this deadline. If not, ETC cannot be used.
Failure Modes and Effects Analysis – EV Class – – ICV Class* Using ETC– (Electronic Data)		Upload to the Team Page <Excel/-10MB>	
Structural Equivalency Sheet (Electronic Data)	2pm, Mon, May 22	Upload to the Team Page <Excel/-15MB>	Submission delay will incur a penalty of 10 points a day (Delay Deadline is 2pm, Sat, May 27). Teams shall be required to re-submit any documentation judged as “insufficient” in any way.
Impact Attenuator Data (Electronic Data)		Upload to the Team Page <PDF/-15MB>	
Design Report (Electronic Data)	2pm, Wed, June 7	Upload to the Team Page <PDF/-10MB>	Submission delay will incur a penalty of 10 points a day (Delay Deadline is 2pm, Sat, June 17).
Design Spec Sheet (Electronic Data)		Upload to the Team Page <Excel/-3MB>	
Cost Report (Both of the Printed Documents and CD-R)	Postmarked Deadline Fri, June 16	Mail	Submission delay will incur a penalty of 10 points a day (Delay Deadline is 2pm, Sat, June 24). Teams must submit both of the Printed Documents and CD-R.
Business Logic Case (Electronic Data)	2pm, Tue, July 4	Upload to the Team Page <PDF/-10MB>	Submission delay will incur a penalty of 10 points a day (Delay Deadline is 2pm, Sun, July 9).
Shakedown Certificate (Electronic Data)	2pm, Fri, August 25	Upload to the Team Page <mpg, wmv/-20MB>	Teams that fail to submit the Shakedown Certificate or do not pass this stage shall not be permitted to participate in the Technical Inspections and the Dynamic Events.

All documents (Structural Equivalency Sheet, Impact Attenuator Data, Design Report, Design Spec Sheet, Cost Report, Business Logic Case, Electrical System Form(EV Class Only) and Failure Modes and Effects Analysis (EV Class Only)) must be submitted before the deadline dates. Otherwise, there is a possibility that you are disqualified for 2017 Student Formula Japan.

Article 12 Document Screening

1. Document Screening

With the Design Reports, Design Spec Sheet, Cost Reports and Business Logic Case submitted from the teams, document screening shall be performed for each Static Event (Design, Cost and Presentation Event).

2. Document Screening - Announcement of Results -

The results will be announced on Friday, July 28, 2017 on the official website.

According to the results of documents screening,

- a. Teams that cannot pass the specified documents screening (Design, Cost and Presentation Event) shall be prohibited from taking part in the corresponding Static Events (Design Event, Cost Event or Presentation Event) during the competition.
- b. If teams pass none of document screening (Design, Cost and Presentation Event), there is a possibility that they shall be prohibited from taking part in the competition. However, such teams that cannot participate in some part of Static Events may participate in the corresponding Follow-Up Program at the competition.

Article 13 Shakedown Certificate

Teams that have passed the document screening shall submit a **Shakedown Certificate*** by 2:00 pm on Friday, August 25 in order to prove the completion level of the car. Teams that fail to submit the Certificate or do not pass this stage shall not be permitted to participate in the Technical Inspections and the Dynamic Events.

Shakedown Certificate*

This certificate shall consist of the moving images of the car being driven, accelerated and stopped. The team plate that has the following information is included in the movie.

- ① Name of the University ② Car Number ③ Place information ④ Date ⑤ Sign of team FA
NOTE: There is the sample movie on the team page.

*When teams make a movie, they have to use the Driver Equipment and Impact Attenuator and ensure a safe location.

Submission Methods: Upload to the Team Page

Form/Maximum Capacity: mpg, wmv (For Windows Media Player)/ At most 20MB

- EV Class Only -

Teams shall submit moving images of the shutdown button that operates properly. The images shall include the way it operates as “the voltage in the tractive system drops to under 60V DC or 25V AC RMS in less than five seconds after opening the shutdown circuit”

1) Qualified Teams

Teams shall be permitted to participate in the competition on the days of the Technical Inspections and Dynamic Events.

2) Disqualified Teams

Teams may participate in the Follow-Up Program at the competition.

Article 14 Follow-Up Program

1. Teams that cannot participate in some of the Static Events, and teams that cannot take part in the Technical Inspections may participate in the Follow-Up Program at the competition.
2. Contents of Follow-Up Program
 - Simulated Technical Inspection
 - Design Event
 - Cost Event
 - Presentation Seminar
 - Consultation on EV Production / EV Technical Inspection

Article 15 Process to Dynamic Events

Teams must pass the Technical Inspections to proceed to the Dynamic Events.

Article 16 Awards

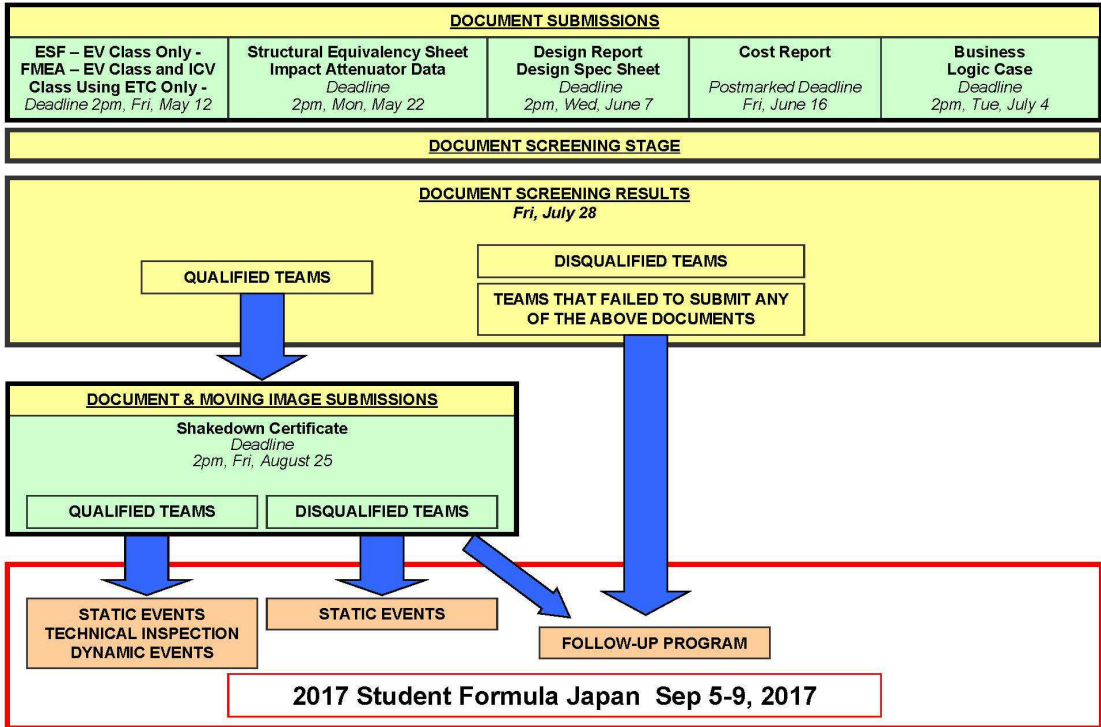
Minister of Economy, Trade and Industry Award / Minister of Land, Infrastructure, Transport and Tourism Award / Governor of Shizuoka Prefecture Award / Mayor of Fukuroi City Award Japan/ Automobile Manufacturers Association Award / Award for each competition category, etc.

*Referring to the sheet “2017 Student Formula Japan Awards List (provisional)”

Article 17 Additional Clause

1. The Local Rules will be announced on the official website at any time.
2. On participating in the 2017 Student Formula Japan, each team and the members shall thoroughly read and comprehend the contents of the 2017-2018 Formula SAE® Rules, the Local Rules and the Participation Rules.
3. When any doubt occurs as to the interpretation of the Rules, the decision of Rule Committee and Student Formula Japan 2017 Implementation Committee has priority over all others.
4. In case you abandon to join in 2017 Student Formula Japan even though the documents screening is qualified, please declare to do so (2017-2018 Formula SAE® Rules, A.7.8) with the least delay.
5. Teams must comply with Japanese laws.

Schedule to the 2017 Student Formula Japan



2017 Student Formula Japan Awards List (provisional)

Outstanding Performance Awards

Award Name	Outline
Minister of Economy, Trade and Industry Award	Top finisher overall (Team accomplished all events)
Minister of Land, Infrastructure, Transport and Tourism Award	Top team overall rating in safety, environmentally friendly and advanced technology
Governor of Shizuoka Prefecture Award	Top team overall rating in Static Events, Acceleration, Skid-pad, Autocross, Noise, Efficiency, Safety, and Weight Reduction
Mayor of Fukuroi City Award	Top team overall rating in Static Events
JAMA Chairperson Awards	Teams accomplished all Static & Dynamic Events (exc.penalized by Noise or document submission delay)
Spirit of Excellence Awards for ICV class	Top 6 finishers overall in ICV (Team accomplished all events)
Spirit of Excellence Award for EV class	Top finisher overall in EV (Team accomplished all events)

Categorized Awards

Award Name	Outline
Cost Awards	Top 3 teams in Cost & Manufacturing
Design Awards	Top 3 teams in Design
Presentation Awards	Top 3 teams in Presentation
Acceleration Awards	Top 3 teams in Acceleration
Skid-Pad Awards	Top 3 teams in Skid-pad
Autocross Awards	Top 3 teams in Autocross
Endurance Awards	Top 3 teams in Endurance
Efficiency Awards	Top 3 teams in Efficiency

Special Awards

Award Name	Outline
Rookie Awards	Top teams from the SFJ first-timers
CAE Awards	Top teams in terms of CAE in Design Event
Lightweight Engineering Awards(ICV)	The lightest vehicle attended whole events (exc.Endurance)
Lightweight Engineering Awards(EV)	
Best Suspension Awards	Top teams in terms of suspension performance in Design Event
Best Improvement Awards	The most improving teams participated for the second consecutive year
Best Three-View Drawing Award	Top team on Three-View Drawing
Best Aerodynamics Award	Top team on Aerodynamics and Thermo-fluid analysis
Best Lap Awards	Top three teams recorded the fastest lap in Endurance
Best Composite Award	Top team made high-quality composite parts
Best Electrical System Design Awards	Top 3 teams in terms of electrical system design (Only for EV team that complete Design Event)
Ergonomics Awards	Top 3 teams who achieve superior ergonomic design as a racing car.(Driving position, steering/pedal maneuverability, instruments visibility, etc)