

**FORMULA IMPERIAL-2020 (ON-CAMPUS MENTORSHIP)**

### Topics to be covered-

* Background
* Team formation
* Planning, Communication & Review
* Design

## Day 1 (Session 1)

* 1. **Inauguration & Background**
		+ Opening Ceremony
		+ Introduction to the event
		+ Introduction to the speakers
		+ Introduction to Motorsports
		+ Workshop Agenda

#### Team Formation

* + - Individual Roles
		- Importance of Team Work
		- Work Distribution amongst the team members

#### Planning Communication & Review

* + - Importance of Planning in the team
		- Student activity & interaction
		- Rectify & Explain proper planning concept
		- Major Planning activity
		- Importance of vision & communication

#### Designing & Software Session

* + - Introduction to Designing Software
		- How to master designing

## Lunch Break – Please note that Session 2 will start sharply at 2 pm

##### Day 1 (Session 2)

* 1. **Designing & Software Session**
		+ Designing of subsystems through software
			- Chassis & Bodyworks
			- Suspension
			- Braking
			- Powertrain
			- Axle & Wheel Assembly
			- Steering Assembly

# Day 2

### Topics

* Procurement
* Vehicle build
* Testing
* Refinement
* Final build & testing
* Final Event management (planning, budgeting, logistics, spares, vehicle tuning, technical inspection clearance, data collection)

***Day 2 (Session 1)***

#### Procurement

* + Understanding the needs
	+ Shortlisting & obtaining components

#### Vehicle Building Session

* + Planning & Task allocation
	+ Verification of the design
	+ Progress check & Efficiency management
	+ Prototype Designing
	+ Jigs manufacturing, Part fitting, Assembly process
	+ Material & Tool Handling, Safety precautions
	+ Welding, Painting, Wiring
	+ Vehicle Presentation
	+ Student Activity

## Lunch Break – Please note that Session 2 will start sharply at 2:00 pm

#### Testing

* + Importance of Testing
	+ Proper Testing Methods
	+ Design Validation Plan (DVP)
	+ Student Activity

#### Refinement

* + Student Interaction & inputs
	+ Open Discussion

#### Final Build

* + Documenting the changes
	+ Explaining the importance of documentation

#### Final Event

* + Preparation for tech inspection
	+ Importance of rulebook considerations
	+ What to expect at the final event?
* Sketching Activity
* Online Test
* Electrical & Electronics
* Hybrid Powertrain
* Safety Considerations
1. **Sketching Activity**
	* Car Design & Structure hand sketch activity
2. **Electrical & Electronics**
	* Motor Selection
	* Battery Selection
	* Wiring & Connections
	* Electrical Safety

#### Online Test (Rulebook Test)

1. ***Hybrid Powertrain***
	1. What do you understand by hybrid?
	2. Types of Hybrids
	3. Developing hybrid Powertrain
	4. Efficiency Management of Hybrid Powertrains

#### Safety & Precautions

1. **Closing Ceremony & Guest Speech**