



Start time	Duration	Morning Session Presentations	Speaker
7:30 a.m.	45 min	On-site Registration	
8:15	5 min	<b>Welcome Remarks</b>	<b>Alba Colon</b> , Hendrick Motorsports
8:20	10 min	<b>Opening Remarks / Morning Survey</b>	<b>Missy Chmielowiec</b> , General Motors <b>Maura Chmielowiec</b> , General Motors
8:30	15 min	<b>Competition Overview</b> <i>Will introduce the teams to the lead organizers and Rules Committee members for both Formula SAE and Formula Hybrid.</i>	<b>Michael Royce</b> , Albion Associates
8:45	15 min	<b>Formula Hybrid 2020 Rules Changes</b>	<b>Michael Royce</b> , Albion Associates <b>Adam Tallman</b> , General Motors
9:00	20 min	<b>Formula SAE 2020 Rules Changes</b>	<b>Steve Sayovitz</b> , FSAE Rules Chair & Scorekeeper <b>Geoff Turner</b>
9:20	45 min	<b>The Design Process</b> <i>The Design Event Overview - An in-depth look at the logistics and expectations for the Design Event.</i>	<b>Andy Vrenko</b> , Ford Motor Company
10:05	15 min	<b>Networking Break w/ Sponsors and Teams</b>	
10:20	30 min	<b>Sponsorship</b> <i>Sponsorship is a key component to the success of a FSAE Team. It is also one of the most often overlooked pieces. This presentation will highlight basic techniques and tips to aid teams in successfully obtaining and retaining sponsors.</i>	<b>Adam Zemke</b> , SC3 Inc.
10:50	15 min	<b>Driver's Safety Harnesses, Safety Gear &amp; General Safety</b> <i>Choosing and caring for the driver's safety gear and harness, the installation of the latter, and other safety protocols.</i>	<b>Michael Royce</b> , Albion Associates
11:05	45 min	<b>Decision Making for Engineers</b> <i>Every FSAE team member will participate in a decision at some point during the project. This segment will explain a common industry methodology for evaluating and selecting the optimal design solution.</i>	<b>Missy Chmielowiec</b> , General Motors <b>Maura Chmielowiec</b> , General Motors
11:50	40 min	<b>Lunch &amp; Network w/ Sponsors and Teams/Select breakout sessions</b>	
12:30		<b>Everyone back in main auditorium by 12:30 PM</b>	

Notes/Questions:

**2019 FALL FSAE Workshop - Afternoon Breakout Sessions**

	Main Auditorium	Room-1	Room-2	Room-3
12:30 <sup>PM</sup>	<p><b>12:30 - 1:30 PM</b>  <b>Mechanical Simulation Corporation</b>  <b>Model &amp; Simulation of a FSAE vehicle</b>                      Ben Duprey, Modeling &amp; Simulation Engineer</p>			
:45				
1:00 <sup>PM</sup>	<p>Modeling, simulation, and analysis of a Formula SAE vehicle performing a wide variety of maneuvers; acceleration, braking, skidpad, autocross.                      Implementations of electrified powertrains such as in-wheel motors will also be discussed.</p>			
:15				
:30				
:45	<p><b>1:45 - 2:45 PM</b>  <b>Suspension &amp; Steering Design/ Tires &amp; TTC Data</b>                      Edward M. Kasprzak</p>	<p><b>1:45 - 2:45 PM</b>  <b>1-D Engine Modeling &amp; Intro to Valvetrain Simulation</b>                      Mark Claywell - General Motors                      Rizwan Khan - General Motors</p>	<p><b>1:45 - 2:45 PM</b>  <b>Frame Design 101 &amp; the SES</b>                      Brandon Horsch - Pratt &amp; Miller                      James Shaw - Fastway Engineering</p>	<p><b>1:45 - 3:45 PM</b>  <b>EV Design Practices</b>  <b>FSAE-E &amp; Formula Hybrid</b>                      Danny Bocci - John Deere                      Adam Tallman - General Motors</p>
2:00 <sup>PM</sup>				
:15	<p>Overview of suspension and steering design fundamentals with a brief introduction to tire force and moment behavior. Also includes an overview of the FSAE Tire Test Consortium, and some sample data from TTC testing. Topics will include tire selection, kinematics design, designing for drivability, and steady state cornering.</p>	<p>This two-part presentation will contain an overview of 1D engine modeling as well as a brief introduction to valvetrain modeling, both of which include some examples of application.</p>	<p>Tube Frame Fundamentals: Understanding targets and design optimization for tube frame structures.                       Followed by a discussion on the new FSAE SES for 2019. (The FH SES remains unchanged.)</p>	<p>An Overview of electrical system design, electrical safety, and the most common issues that teams face. Discuss new ESF template. Q/A to follow with open discussion.</p>
:30				
:45				
3:00 <sup>PM</sup>	<p><b>3:00 - 4:00 PM</b>  <b>Vehicle Simulation</b>                      Jeff Christos - Center for Automotive Research, OSU</p>	<p><b>3:00 - 4:00 PM</b>  <b>Engine Calibration Part 1, Introduction to Engine Control Systems and Engine Sensors - Engine Mapping</b>                      Peter Kuechler - Ford Motor Company</p>	<p><b>3:00 - 4:00 PM</b>  <b>Aerodynamics</b>                      Greg Fadler - FCA</p>	
:15				
:30	<p>An overview on the development and optimization of a performance vehicle from the driver's seat. Covers the driver's role, driver feedback testing approach, and overall dynamic event strategy.</p>	<p>This Session is a follow-up to Part 1 that was given at the 2017 Fall Workshop, and will cover the preparation for mapping an engine, an overview of how to map an engine and interactions to be aware of when mapping.</p>	<p>An overview of Formula SAE Race Vehicle Aerodynamics including process, tools, and strategies.</p>	
:45				
4:00 <sup>PM</sup>	<b>Everyone back into the main auditorium for General Q&amp;A with presenters</b>			
4:10 <sup>PM</sup>	<p><b>4:10 - 4:30 PM</b>  <b>General Q &amp; A</b>  <b>All Presenters</b></p>			
:15	<b>Workshop Adjourned</b>			