



SAE DETROIT SECTION 2011 FORMULA SAE WORKSHOP

October 22nd 2011

COMPETITION OVERVIEW

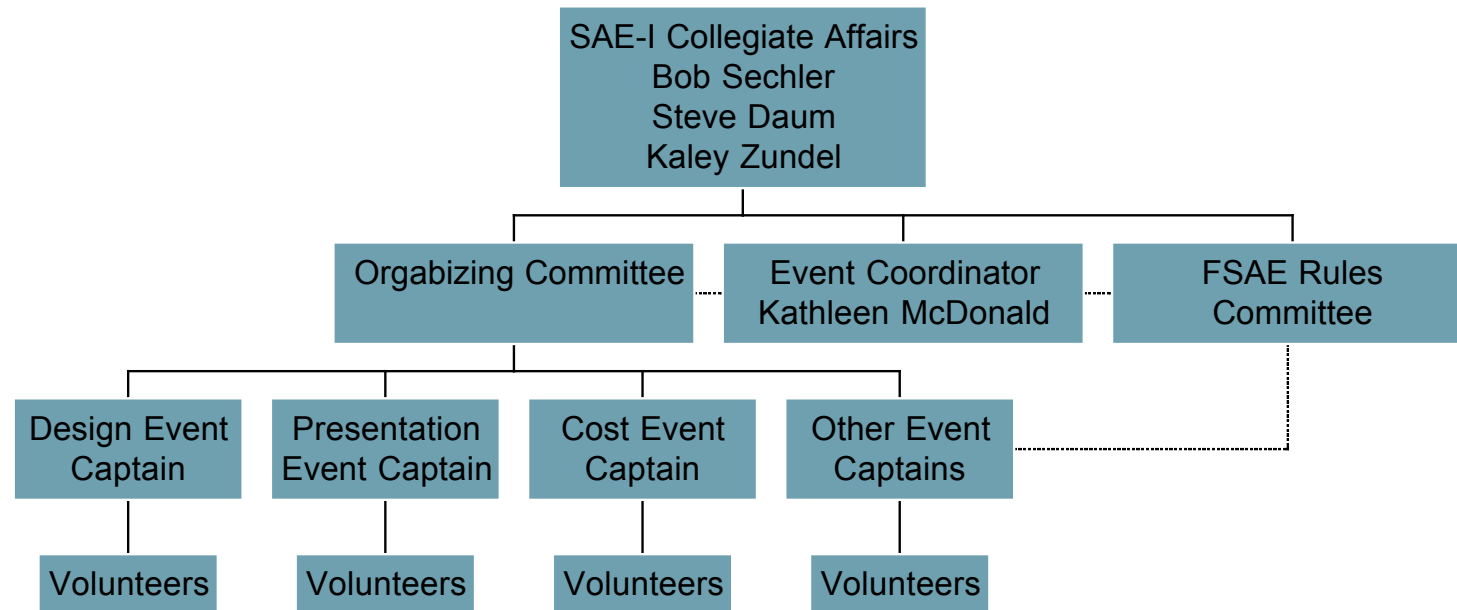
Michael Royce
Albion Associates LLC

FSAE Workshop 2011

2011 FSAE WORKSHOP

COMPETITION OVERVIEW

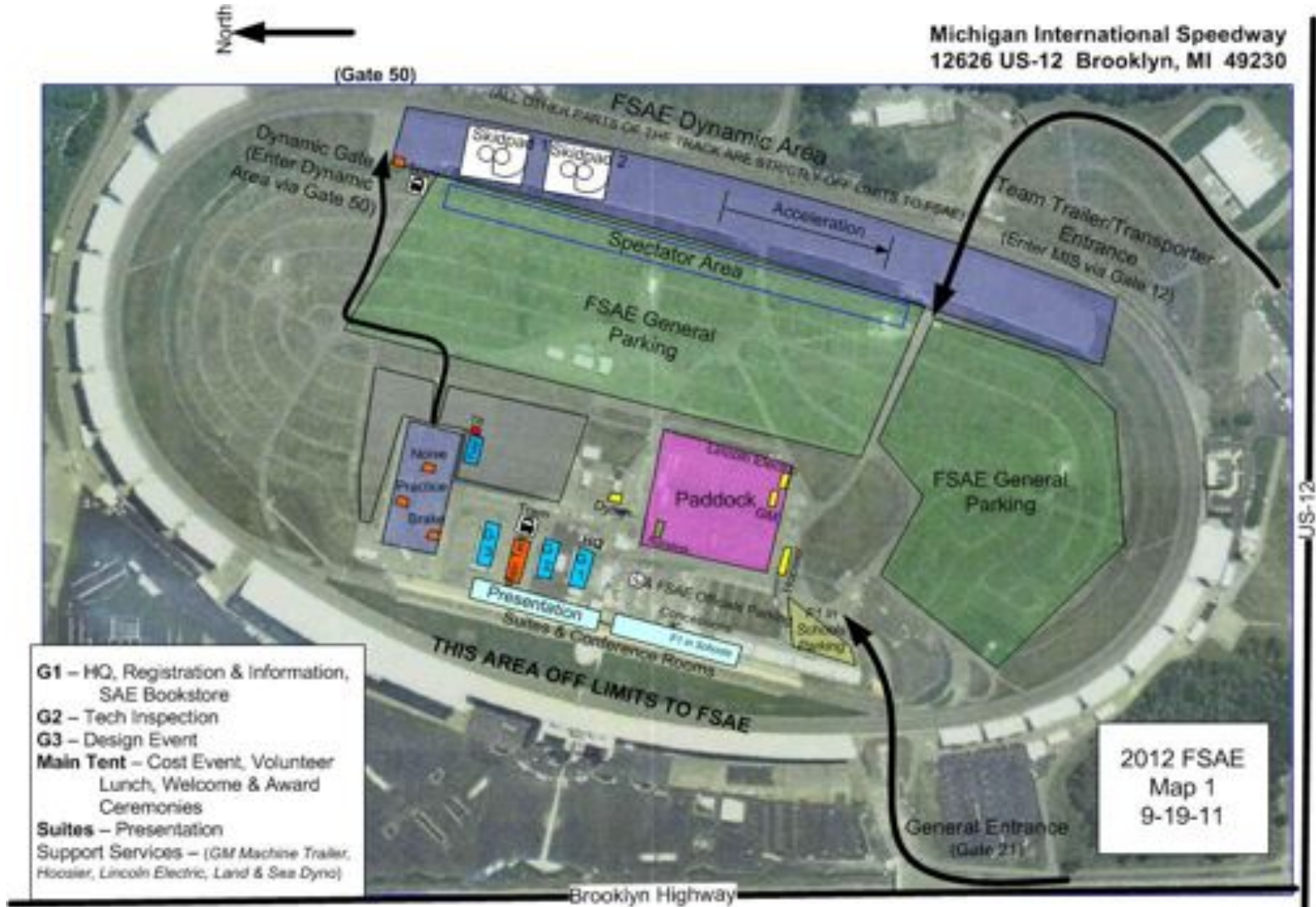
- Event Organization
- What to Expect at the Event
- Resources Available
- Other Events for FSAE Cars



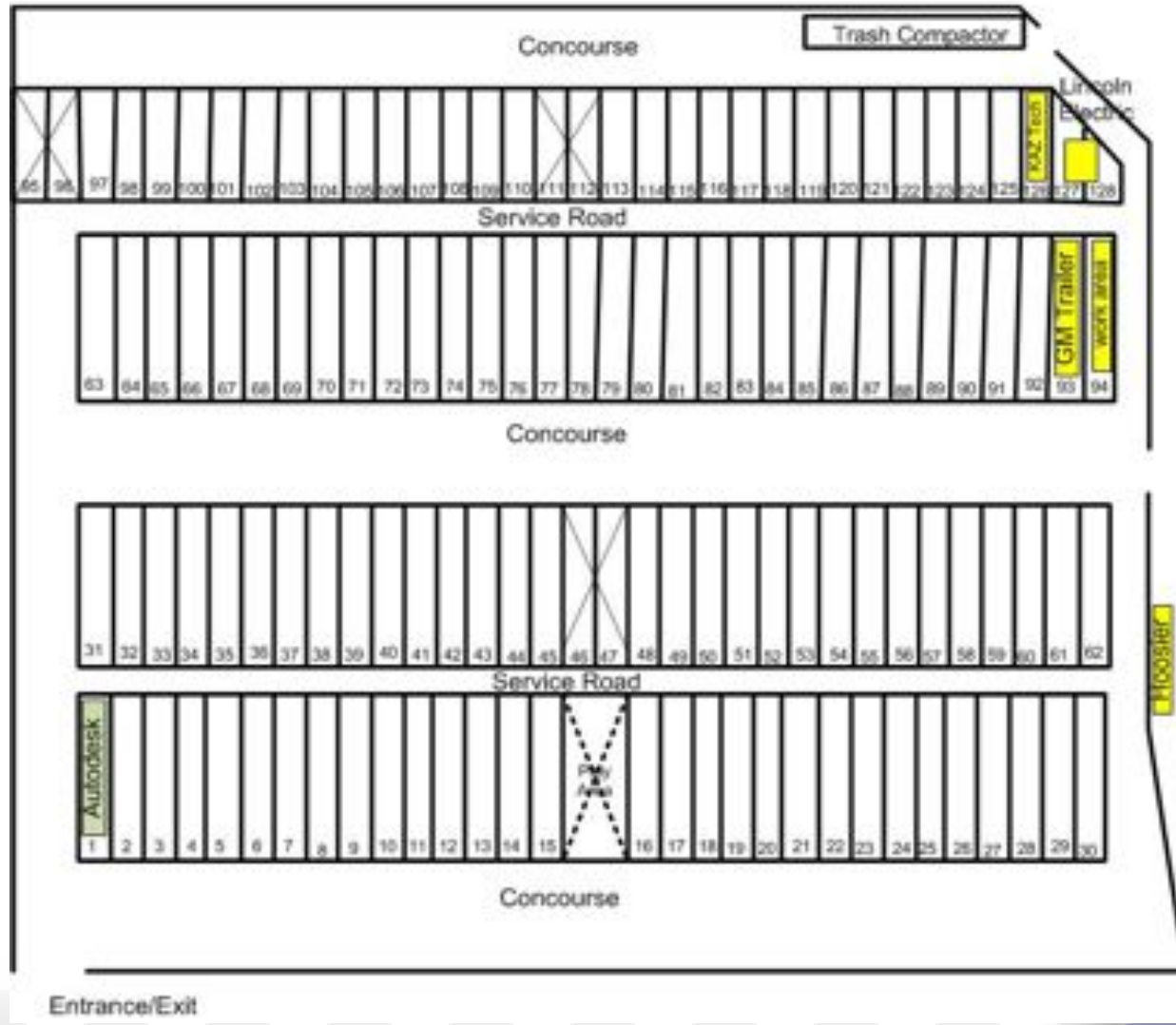
2011 FSAE Workshop

What to Expect at the Event

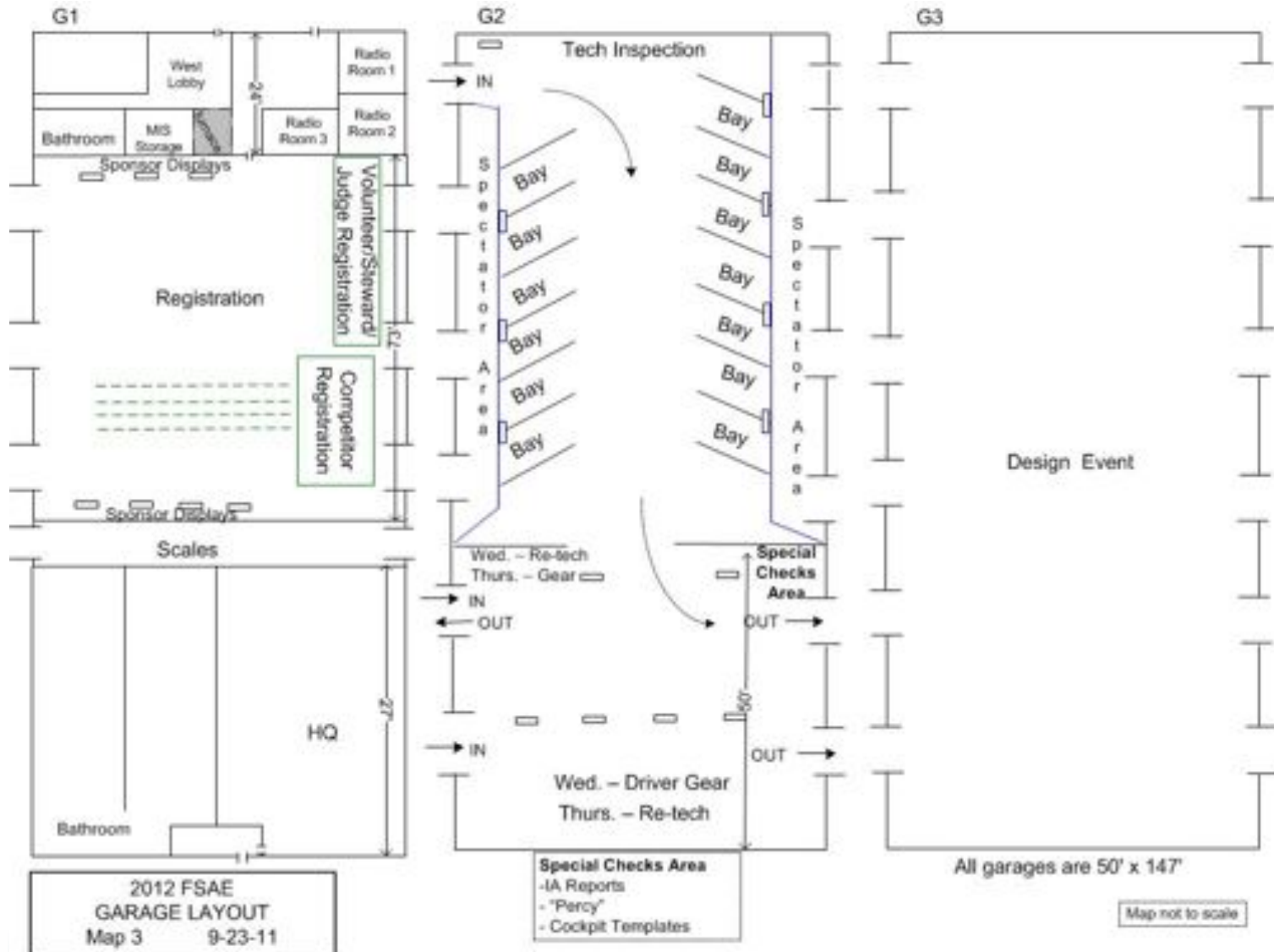
- Site Maps
- Schedules
 - Overall Competition Schedule (2012 Preliminary)
 - Competitors' Flow Chart
 - Static Event Schedule by Team (2004 example)
 - Design Event Schedule (2004 example)



2012 FSAE
PADDOCK LAYOUT
Map 2
9-19-11



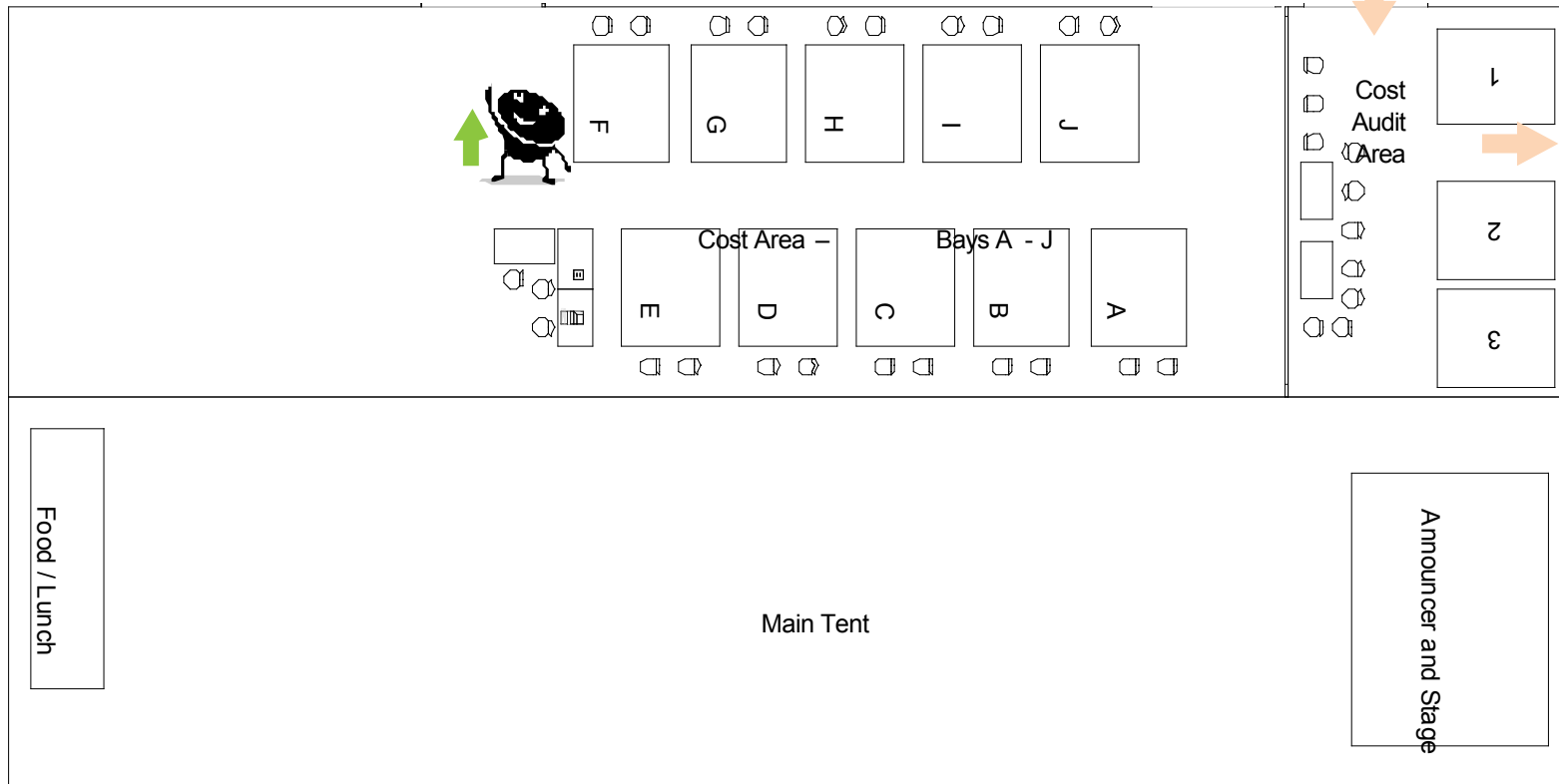
1-94 are 15' x 75'
95-126 are 15' x 50'



2012 FSAC
GARAGE LAYOUT
Map 3 9-23-11

Special Checks Area
-IA Reports
- "Percy"
- Cockpit Templates

Map not to scale



2011 FSAE Main Tent
Map 5 9/19/11

Formula SAE

Overall Schedule - Michigan Event

Tuesday Evening

- Early registration

Wednesday

- Registration & Early Technical Inspection

Thursday

- Tech Inspection, Design Preliminary, Presentation and Cost Events, and Design Semi-Finals

Friday Morning

- Acceleration & Skid-Pad Events

Friday Afternoon

- Autocross Event
- **Awards Ceremony # 1**

Saturday

- Endurance & Fuel Economy Event
- Design Finals
- **Awards Ceremony Finale**

FSAE 2012 Overall Competition Schedule - Prelim (cont'd)

- **MIS Site Open** **Wed.-Fri. 7.30 a.m.-7.30 p.m.; Sat. 7.30 a.m.-10.30 p.m.**
- **Tech Take-A-Number Open:** **Wed. 11 a.m.**
- **Tech Inspection open:**
 - Wednesday 2 p.m. - 7 p.m. in G2 (No new cars after 6.00 pm)
 - Thursday. 9 a.m. - 5 p.m. in G2
 - Friday-Saturday. By appointment in G2 (**9 a.m. - 4 p.m. Fri. 9 a.m. - 1 p.m. Sat.**)
- **Scales open (G1 drive thru):**
 - Wednesday 3 p.m. - 7 p.m.
 - Thursday 8 a.m. - 4 p.m.
- **Brake/Tilt/Noise open:**
 - Thursday 9 a.m. - 5 p.m. (**Staggered opening times by 30 mins per event**)
 - Friday 9 a.m. - 2 p.m. (2 p.m. – 4:30 p.m. by appointment)
 - Saturday By appointment until 1 p.m.
- **Fuel Station open:**
 - Thursday 8.30 a.m. - 5 p.m.
 - Friday & Saturday 8 a.m. - 5 p.m.
- **Practice Area open:**
 - Thursday 10.00 a.m. - 5.00 p.m.
 - Friday 9.00 a.m. - 5.00 p.m.
 - Saturday 8.30 a.m. - 3.00 p.m.

Note: 30 minutes notice is required for all appointments, which can be booked through the announcer in the Main Tent

FSAE 2012 Overall Competition Schedule - Preliminary

TUESDAY, MAY 8

6:30 p.m. - 10:00 p.m. Early Registration @ Brooklyn Super 8 Motel (offsite)

WEDNESDAY, MAY 9

7.30 a.m. Site Opens
8:00 a.m. - 4:30 p.m. Registration Open in G1
11.00 a.m. Tech Inspection "Take-A-Number" opens
5:30 p.m. Welcome Ceremony @ Main Tent (Open to Students, Faculty & Volunteers)
6:00 p.m. - 6:20 p.m. Captain's Meeting in Main Tent
7:30 p.m. Official Closing of the Site
8:00 p.m. EVERYONE MUST BE OFF-SITE

THURSDAY, MAY 10 (all times preceded by "~" are approximate)

7:30 a.m. Site Opens
7:30 a.m. - 4:30 p.m. Student Registration Open @ G1
8:00 a.m. Drivers' Meeting (Brake & Noise) @ Main Tent (MANDATORY)
8:30 a.m. - 5:00 p.m. Design Judging Open @ G3
9:00 a.m. - 5:00 p.m. Cost Judging Open in Main Tent
9:00 a.m. - 5:00 p.m. Presentation Judging Open @ Suites
12:00 p.m. - 1:00 p.m. LUNCH BREAK (Main Tent)
5:00 p.m. Push Bar finalist teams announced (up to 5 teams)
~ 6:00 p.m. Design Semi-Finalists Announced
6:00 p.m. Drivers' Meeting (Acceleration & Skid-Pad Events) @ Main Tent (MANDATORY)
6:30 p.m. Design Semi-Finals @ G3 (limited to 10 members per semi-finalist team)
7:30 p.m. Official Closing of the Site
8:00 p.m. EVERYONE MUST BE OFF-SITE (excluding Design Semi-finalists)
10:00 p.m. Semi-finalist Teams Released from Design Semi-Finals
10:30 p.m. All Design Semi-finalists & Judges must Exit MIS

FSAE 2012 Overall Competition Schedule - Prelim (Cont'd)

FRIDAY, MAY 11

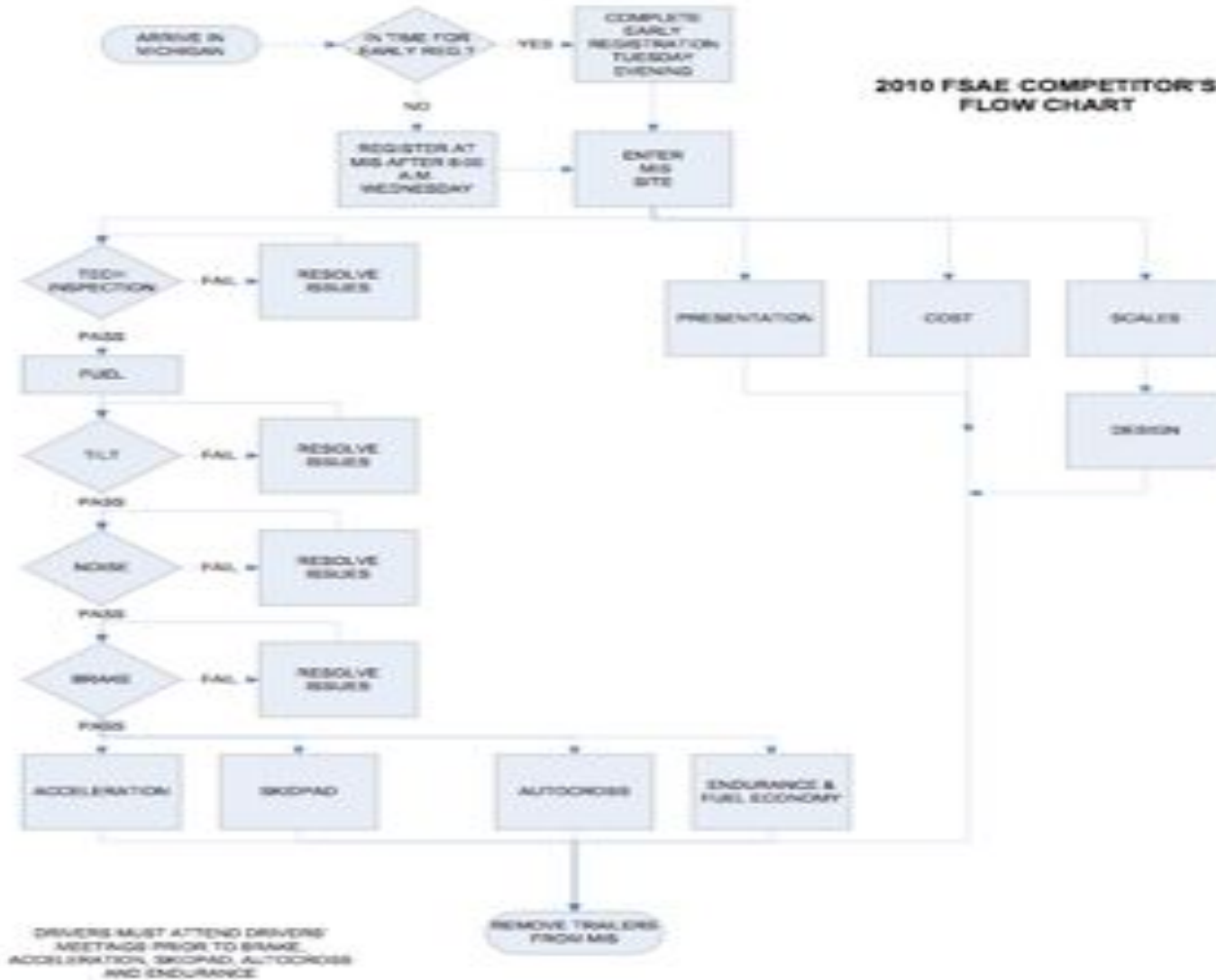
7:30 a.m.	Site Opens
8:30 a.m.	Course Worker Safety Briefing (Acceleration & Skidpad) on Track (MANDATORY)
9:00 a.m. - 12:30 p.m.	Acceleration Event and Skidpad Events Open
9:30 a.m.	Presentation Seminar @ G1
12:00 p.m. - 5:30 p.m.	Design Event Feedback @ G3 (By Appointment)
12:30 p.m.	LUNCH BREAK (Main Tent)
1:15 p.m.	Drivers' Meeting (Autocross) @ Main Tent (MANDATORY)
1:35 p.m.	Course Worker Safety Briefing (Autocross) on Track (MANDATORY)
2:00 p.m. - 5:00 p.m.	Ford Autocross Event Open
5:30 p.m.	Staging for Panoramic Photograph (Tentative; contingent upon location)
6:15 p.m.	Drivers' Meeting (Endurance & Fuel Economy Events) @ Main Tent (MANDATORY)
7:00 p.m. Approx.	Friday Awards Ceremony in Main Tent (Immediately after Dr. Meeting)
7:30 p.m.	Official Closing of the Site
8:00 p.m.	EVERYONE MUST BE OFF-SITE

FSAE 2012 Overall Competition Schedule - Preliminary (cont'd)

SATURDAY, MAY 12

7:30 a.m.	Site Opens
8:30 a.m.	Course Worker Safety Briefing (Endurance) on Track (MANDATORY)
9:00 a.m.	Endurance Opens for Group 1
~ 11:30 a.m.	Endurance Line Closes for Group 1
~ 12:00 p.m. - 2:00 p.m.	Design Event Feedback @ G3 (By Appointment)
~ 12:00 p.m.	LUNCH BREAK (Main Tent)
~ 1:00 p.m.	Course Workers back on Track
~ 1:15 p.m.	Design Finalists Start Endurance
~ 1:45 p.m.	Endurance Opens for Group 2
~ 3:00 p.m. - 5:00 p.m.	Design Finals @ G3
~ 3:30 p.m.	Endurance Line Closes for Group 2 (earlier if no cars in line)
~ 6:30 p.m.	Design Review @ G3
~ 8:00 p.m.	Final Award Ceremony @ Main Tent
10:30 p.m.	Official Closing of the Site
11:30 p.m.	EVERYONE MUST BE OFF-SITE; All Teams and Transporters must Exit

2010 FSAE COMPETITOR'S FLOW CHART



Copyright 2010 SAE International

2010 Formula SAE Steward Handbook

FSAE Static Event Schedule - Typical

School Name (5-11-04)	Car#	Design Event	BAY	Presentation Event	BAY	Cost Event	BAY
University of Wollongong	1	8:00 AM	A	1:00 PM	A	10:30 AM	A
University of Missouri - Columbia	2	8:30 AM	F	1:30 PM	F	11:00 AM	F
Michigan State	3	8:00 AM	I	1:00 PM	I	10:30 AM	I
Georgia Institute of Technology	4	8:30 AM	A	1:30 PM	A	11:00 AM	A
Auburn University	5	8:30 AM	I	1:30 PM	I	11:00 AM	I
Virginia Polytechnic Institute & State U.	6	3:00 PM	B	10:30 AM	B	8:00 AM	B
North Carolina State University - Raleigh	8	8:30 AM	E	1:30 PM	E	11:00 AM	E
Cornell University	9	8:30 AM	H	1:30 PM	H	11:00 AM	H
California State Poly University - Northridge	10	9:00 AM	E	4:00 PM	E	11:30 AM	E
Massachusetts Institute of Technology (MIT)	11	12:30 PM	H	8:00 AM	H	2:30 PM	H
University of Missouri - Rolla	12	8:00 AM	G	1:00 PM	G	10:30 AM	G
Carleton University	13	4:30 PM	I	12:30 PM	I	9:30 AM	I
University of Toledo	14	4:30 PM	B	12:30 PM	B	9:30 AM	B
University of Texas - Austin	15	4:30 PM	F	12:30 PM	F	9:30 AM	F
Colorado State University	16	2:00 PM	E	9:30 AM	E	4:00 PM	E
University of Waterloo	17	8:00 AM	C	1:00 PM	C	10:30 AM	C
University of Windsor	18	11:00 AM	A	3:30 PM	A	1:30 PM	A
Wayne State University	19	9:00 AM	A	4:00 PM	A	11:30 AM	A
University of Florida	20	3:30 PM	I	11:00 AM	I	8:30 AM	I
Oakland University	21	9:00 AM	C	4:00 PM	C	11:30 AM	C
Purdue University	22	1:30 PM	C	9:00 AM	C	3:30 PM	C
South Dakota School of Mines	23	3:30 PM	G	11:00 AM	G	8:30 AM	G
SUNY - Buffalo	24	1:30 PM	G	9:00 AM	G	3:30 PM	G
University of Guelph	25	4:00 PM	I	11:30 AM	I	9:00 AM	I
Universite Laval (Laval University)	26	3:00 PM	I	10:30 AM	I	8:00 AM	I
University of Calgary	27	10:30 AM	H	3:00 PM	H	1:00 PM	H
Temple University	28	9:00 AM	D	4:00 PM	D	11:30 AM	D
Rutgers University	29	4:30 PM	A	12:30 PM	A	9:30 AM	A
University of Illinois - Champaign/Urbana	30	10:30 AM	G	3:00 PM	G	1:00 PM	G

FSAE Design Event Schedule - Typical

	Design								
	4	5	6	7	8	9	10	11	12
08:00 AM	1 - University of Michigan	94 - University of Toronto	17 - University of Waterloo	60 - University of Washington	65 - University of Wisconsin - Madison	52 - University of Akron	12 - University of Missouri - Rolla	106 - Ohio State University	3 - Michigan State
08:30 AM	4 - Georgia Institute of Technology	39 - University of Texas - Arlington	25 - Western Washington University	122 - University of Leeds, U.K.	6 - North Carolina State University - Raleigh	2 - University of Missouri - Columbia	57 - Rochester Institute of Technology	9 - Cornell University	5 - Auburn University
09:00 AM	19 - Wayne State University	40 - Iowa State University - Ames	21 - Oakland University	28 - Temple University	10 - California State Poly University - Pomona	42 - Colorado University	41 - Kanagawa Institute of Technology (Japan)	55 - University of British Columbia	102 - North Carolina State University
09:30 AM	90 - National University of Singapore	61 - University of Louisville	67 - McMaster University	10 - Yokohama National University (Japan)	29 - Fukui University (Japan)	109 - Ulsan National University	44 - Clarkson University	54 - Oregon State University	91 - Youngnam University (Korea)
10:00 PM	BREAK	BREAK	BREAK	BREAK	BREAK	BREAK	BREAK	BREAK	BREAK
10:30 AM	113 - Polytechnic University of Puerto Rico	69 - University of Pittsburgh	70 - Concordia University	64 - Saginaw Valley State University	50 - University of Utah	36 - University of New Hampshire	30 - University of Illinois - Champaign/Urbana	27 - University of Calgary	34 - California State Poly University - Pomona
11:00 AM	18 - University of Windsor	126 - University of Puerto Rico - Mayaguez	72 - Tennessee Technological University	124 - University of Alabama - Huntsville	66 - Dartmouth College	33 - Iowa State University	108 - Eastern University	130 - Institute Technologico de Oahu	47 - Colorado School of Mines
11:30 AM	121 - University of California - San Diego	93 - Utah University	78 - Queen's University	27 - University of New Mexico	107 - RWTH Aachen Tech University	74 - Washington State University	110 - University of Arizona	81 - California State Poly University - Long Beach	50 - Oklahoma State University
12:00 PM	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
12:30 PM	129 - California State Poly University - Fresno	85 - Ecole Polytechnique de Montreal	86 - Ecole de Technologie Supérieure	80 - University of Alberta	63 - University of Michigan - Ann Arbor	82 - Penn State University	76 - Universidad Simon Bolivar	11 - Massachusetts Institute of Technology (MIT)	115 - Université de Québec - Chicoutimi
01:00 PM	68 - Carnegie Mellon University	105 - Sophia University (Japan)	112 - Bradley University	89 - Monroe County Community College	123 - McGill University	134 - United States Air Force Academy	77 - Stevens Institute of Technology	62 - University of Idaho	103 - Kansas State University
01:30 PM	71 - Clemson University	101 - University of Manitoba	22 - Purdue University	96 - University of California - San Diego	87 - University of Saskatchewan	98 - Michigan Tech	24 - SUNY - Buffalo	83 - University of California - Davis	131 - University of Texas - San Antonio
02:00 PM	143 - Oxford Brookes University	88 - University of Southern California	118 - University of Wisconsin - Stevens Point	104 - Lawrence Technological University	16 - Colorado State University	100 - Northern Illinois University	51 - University of California - San Diego	75 - University of California - San Diego	120 - University of Colorado - Boulder

Formula SAE Resources Available

SAE Website

(<http://students.sae.org/competitions/formulaseries/>)

- About
- Rules & Important Documents
- Formula SAE Series
- Forum
- Team Sites
- Resources
- Contact Us
- Visa Invitation
- Other SAE CDS Events

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Formula SAE Resources Available - Cont'd

SAE Website

(<http://students.sae.org/competitions/formulaseries/rules/>)

“Rules & Important Documents”

Questions about the Formula SAE Rules

All rules questions for Formula SAE (US events only) must be sent to katklauz@aol.com and include

- (1) the full name and email address of the student submitting the question,
- (2) the name of the university - no abbreviations - and
- (3) the number of the applicable rule.

Formula SAE Resources Available - Cont'd

SAE Website (<http://students.sae.org/competitions/formulaseries/rules/>)

“Rules & Important Documents”

Rules

- 2012 Formula SAE Rules
- 2011 Formula SAE Rules
- Student Activity Disclosure Form (*Revised 1/28/11*)
- **Alternative Frame Rules Sample Frame and Documents (being removed)**
- **Standard Impact Attenuator (Being removed)**

Technical Inspection

- 2012 Technical Inspection (Form) (Coming soon)
- FSAE Technical Inspection Review for Teams
- Post Endurance & Fuel Economy Vehicle Inspection Procedures
- Noise Test Engine Speeds

Note: The following have been removed from this page:

- **The link to Frequently Asked Questions**
- **Structural Equivalency Guide 2008**
- **FSAE Structural Equivalency Form**
- **Impact Attenuator Data Report**

Formula SAE Resources Available - Cont'd

SAE Website (<http://students.sae.org/competitions/formulaseries/rules/>)

“Rules & Important Documents”

Design

- FSAE Design Judging*

Competition Operations

- Competition Resource - Quick Jack - .pdf format
- **On-site Activities Review Formula SAE Competitions**

Event Specific Documents

- 2009 Formula SAE Racing Products & Resources*
- **Organizing a Formula SAE Team**
 - Part 1, Organization
 - Part 2, Design, Construction and Preparation
- **Collegiate Roadshow**
- **Managing Student Vehicle Projects - The Non-Technical Side***

Formula SAE Resources Available

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SAE Forums [SAE Website](#) | [Feedback](#) | [Tracker](#) | [Site map](#) | [Search all](#) | [Help](#) | [Login](#)

Automotive
Anonymous
Main Page | [Calendars](#) | [SAE Store](#)
Auto | Motorsports | Tools | Post answer | List answers | Search

[Show folder map](#)
 Formula SAE - Public Forum
 Rules Discussion
 Frequently Asked Question's on Rules

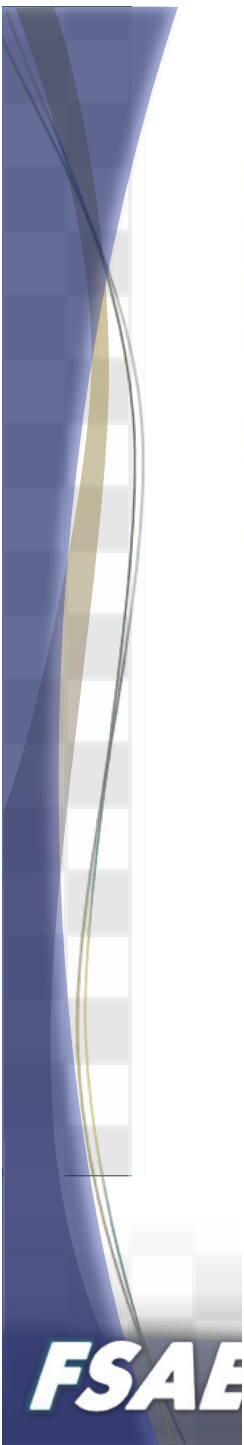
This folder will be used by the FSAE Rules Committee to post the answers to Frequently Asked Questions from all teams.
 All rules questions must still filter through kabkout@aol.com (specified in rules), if you post any questions here they will not be answered.
 Thank you!

1 2 3 4 >>>

Answer	Number	Type	Task	Title	Replies	Author	Activity date
	183	<input type="checkbox"/>		S.5.8 Driver's Leg Protection		Michael Royce	12/17/09 03:58 PM
	182	<input type="checkbox"/>		C.3.15.3 Coating Engine Parts & Modifications		Michael Royce	12/15/09 06:29 PM
	181	<input type="checkbox"/>		C.3.6.1.D Manufacturing Processes		Michael Royce	12/15/09 06:27 PM
	180	<input type="checkbox"/>		S.5.5.2 Throttle Actuation - Throttle Body for Traction Control		Michael Royce	12/15/09 06:25 PM
	99	<input type="checkbox"/>		S.5.5.2 Throttle Actuation Throttle Kickers/Stoppers		Michael Royce	12/15/09 06:22 PM
	98	<input type="checkbox"/>		S.5.5.2 Throttle Actuation-ETC		Michael Royce	12/15/09 06:20 PM
	97	<input checked="" type="checkbox"/>		S.5 Driver Restraints		Michael Royce	12/15/09 06:17 PM
	96	<input checked="" type="checkbox"/>		S.4.5.3 and S.5.2.3 Seat as a Firewall		Michael Royce	12/15/09 06:14 PM
	95	<input type="checkbox"/>		S.4.5 Firewall		Michael Royce	12/15/09 06:12 PM
	94	<input type="checkbox"/>		S.4.2 Cockpit Internal Cross Section		Michael Royce	12/15/09 06:11 PM

1 2 3 4 >>>

View entry number: [Top of page](#)



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Formula SAE Resources Available - Cont'd

SAE Website (<http://students.sae.org/competitions/formulaseries/resources/htm>)

Resources

- SAE Collegiate Design Series on YouTube
- Newsletter Archives
- Collegiate Design Series - Year in Review

Event Specific Documents

- 2009 Formula SAE Racing Products and Resources (books)
- **Organizing a Formula SAE Team**
 - Part 1, Organization
 - Part 2, Design, Construction and Preparation
- Collegiate Roadshow
- **Managing Student Vehicle Projects - The Non-Technical Side**

Logos

- For permission to use the artwork for any SAE Collegiate Design Series event, please contact us.
- SAE Customer Service 1-877-606-7323 (USA & Canada) 1-724-776-4970 CustomerService@sae.org Fax: 1-724-776-0790

Collegiate Roadshow

Collegiate Road Show

On September 30, 2006, the first "Collegiate Road Show" took place at Cedarville University. A second one was held at the SAE's Motorsport Engineering Conference in Dearborn on December 4th, 2006. Some of the presentations in December were repeats of those at Cedarville. Some were new. These workshops consisted of an all-day series of seminars with the speakers focus on Formula SAE and Baja SAE. Below are the presentations which were presented.

- Brakes
- Powertrain & Calibration
- Powertrain Matching
- Project Management
- Race Car Data Acquisition*
- Safety
- Suspension - Tuning & Development
- Suspension 101
- Team Organisation
- Tires 101

** This is a .pdf file. You will need the Adobe Acrobat Reader to view it.*

Formula SAE Resources Available - Cont'd

- “Formula SAE Technology Reference” & “Books of Interest”
 - Carroll Smith's "To Win" books
 - "Managing Student Vehicle Projects" by Dick Golembiewski
 - "Organizing a Formula SAE Team" by Alan Gruner
 - "Engine Tuning and Performance" by Chris Prahacs
 - “Race Car Vehicle Dynamics” by William & Douglas Milliken
- The FSAE Tech Inspectors' web site:
 - http://web.me.com/smr01/fsae_technical_inspection/Welcome.html

Formula SAE

Other Events for FSAE Cars

- Formula SAE California
- Formula Student (UK)
- Formula Student Germany
- Formula SAE-Australasia
- Formula SAE-Italy
- Formula SAE-Brazil
- Formula SAE Teams' Events
- SCCA Solo National Championship
- SCCA Regions' Solo Events
- Local Car Clubs' Autocrosses