

2017 FORMULA SAE MICHIGAN

Event Guide



**FORMULA SAE
MICHIGAN**

#FSAEMICHIGAN

FORMULA SAE MICHIGAN

2017 SAE PRESIDENT'S MESSAGE



Formula SAE Michigan
2017 SAE President's Message

Dear Formula SAE® Participants and Organizers:

Welcome to the Formula SAE competition at Michigan International Speedway in Brooklyn, Michigan.

Formula SAE is steeped in tradition and competition. Now in its 38th year, Formula SAE provides the real-world challenges of systems engineering, design and problem solving, along with the teaming challenges of collaboration and cooperation. In short, Formula SAE, along with all of the SAE Collegiate Design Series™ competitions, provides the skills and experiences needed for a well-rounded engineering education.

In addition to learning, Formula SAE also provides a unique form of competition. This week, collegiate engineering students from many different nations will compete in a series of static and dynamic events designed to challenge their engineering, problem-solving and teamwork skills. This competition offers real-world experience of pressure to meet deadlines and to adjust solutions to overcome obstacles. However, all of the adjustments must be grounded in sound engineering principals. For it is these concepts that will make good engineers who are valuable to future employers.

The students will work hard and compete to win. Some will win first place, others will not. But all will leave here a winner because they will be better engineering students.

Good luck to all who are competing in this event. Also, I want to thank everyone for their hard work, support, volunteerism and participation. The experiences and learning you gain this weekend will last throughout your lives.

Sincerely,

A handwritten signature in black ink that reads "Douglas E. Patton". The signature is fluid and cursive.

Douglas Patton
2017 President
SAE International

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CONCEPT OF THE COMPETITION

The Formula SAE® Series are competitions that challenge teams of university undergraduate and graduate students to conceive, design, fabricate and compete with a small, formula style, competition vehicle. To give teams the maximum design flexibility and the freedom to express their creativity and imaginations, there are very few restrictions on the overall vehicle design. Teams typically spend eight to twelve months designing, building, testing and preparing their vehicles before a competition. The competitions themselves give teams the chance to demonstrate and prove both their creation and their engineering skills in comparison to teams from other universities around the world. Registered for this event are 120 teams from colleges and universities. The end result is a great experience for young engineers in a meaningful engineering project as well as the opportunity of working in a dedicated team effort.

For the purpose of this competition, the students are to assume that a manufacturing firm has engaged them to produce a prototype car for evaluation as a production item. The intended sales market is the nonprofessional weekend competitor. Therefore, the car must have very high performance in terms of its acceleration, braking, and handling qualities. The car must be low in cost, easy to maintain, and reliable. In addition, the car's marketability is enhanced by other factors such as aesthetics, comfort and use of common parts. The manufacturing firm is planning to produce four (4) cars per day for a limited production run. The challenge to the design team is to design and fabricate a prototype car that best meets these goals and intents. Each design will be compared and judged with other competing designs to determine the best overall car.

Over the course of four days, the cars are judged in a series of static and dynamic events including: technical inspection, cost, presentation, engineering design, solo performance trials, and high performance track endurance. These events are scored to determine how well the car performs. In each event, the manufacturing firm has specified minimum acceptable performance levels that are reflected in the scoring equations.

STATIC EVENTS:

Design: The students explain their constructive solutions to a jury of experts from the automotive and motorsport industries in report and discussion. The concept of the design is to evaluate the engineering effort that went into the design of the car and how the engineering meets the intent of the market. The car that illustrates the best use of engineering to meet the design goals and the best understanding of the design by the team members will win the design event.

Cost: The students are to assume that a serial production of 1000 cars a year will follow the prototype. The cost calculation is discussed with a jury based on a report. The objective of the event is for the participants to learn and understand the manufacturing techniques and processes of some of the components that they have chosen to purchase rather than fabricate themselves.

Presentation: The objective is to evaluate the team's ability to develop and deliver a comprehensive business case that will convince the executives of a fictional manufacturing firm that the team's design best meets the demands of the amateur weekend competition market and that it can be profitably manufactured and marketed.

DYNAMIC EVENTS:

Acceleration: The cars are evaluated on their accelerating abilities from a standing start over a distance of 75 meters.

Autocross: The objective is to evaluate the car's maneuverability and handling qualities on a tight course without the hindrance of competing cars. The course will combine the performance features of acceleration, braking and cornering into one event. The results of the Autocross scores determine the starting order for endurance.

Skid-Pad: The objective is to measure the car's cornering ability on a flat surface while making a constant-radius turn. The course will be a pair of concentric circles in shape of the number 8; the cars demonstrate how good lateral forces can be absorbed (up to 1.4g).

Endurance: Over a distance of 22 km, the cars have to prove their durability under long-term conditions. Acceleration, speed, handling, dynamics, fuel efficiency, reliability – the cars have to prove it all.

THE FOLLOWING POINTS ARE POSSIBLE:

| | | |
|--|------|-----------------|
| Static Events (Thursday) | 75 | Presentation |
| | 150 | Design |
| | 100 | Cost Analysis |
| Dynamic Events (Friday & Saturday) | 75 | Acceleration |
| | 50 | Skid-Pad |
| | 150 | Autocross |
| | 100 | Fuel Efficiency |
| | 300 | Endurance |
| TOTAL POINTS: | 1000 | |

2017 FORMULA SAE® MICHIGAN

SCHEDULE OF EVENTS

DAILY OPERATIONS:

■ MIS Site Open:

- Tue. 3:00 p.m. - 7:00 p.m. (Registration and Vehicle Drop Off ONLY)
- Wed. 7:30 a.m. - 7:30 p.m.
- Th. 7:30 a.m. - 7:30 p.m.
- Fri. 7:30 a.m. - 8:30 p.m.
- Sat. 7:00 a.m. - 10:30 p.m.

■ Student Registration (Garage 1):

- Tue. 3:00 p.m. - 7:00 p.m.
- Wed. 8:00 a.m. - 4:00 p.m.
- Thu. - Sat. All students will be registered as spectators

■ Information & Volunteer Registration (Garage 1):

- Wed. 9:00 a.m. - 6:00 p.m.
- Thu. 6:30 a.m. - 6:00 p.m.

■ Tech Inspection Sponsored by Cummins, Inc. (Garage 2):

- Wed. 10:00 a.m. Gear Check Opens
- Wed. Noon - 7 p.m. (no new cars after 6 p.m.)
- Th. 9:00 a.m. - 5:00 p.m.
- Fri. By appointment 9:00 a.m. until 5:30 p.m.
- Sat. By appointment 9:00 a.m. until 1:00 p.m. (Re-tech only)

■ Scales (Garage 1 drive thru):

- Wed. 3:00 p.m. - 6:00 p.m.
- Th. 8:00 a.m. - 4:00 p.m.
- Fri. 7:30 a.m. - Noon (for "cornering")

■ Tilt/Noise/Brake Sponsored by Akebono:

- Th. 9:00 a.m.-5:00 p.m.(Staggered opening times by 30min per event)
- Fri. 8:00 a.m. - 5:30 p.m.
- Fuel Station: Th. 8:30 a.m. - 5:00 p.m.
- Fri. 8:00 a.m. - 5:00 p.m.
- Sat. 7:30 a.m. - 5:00 p.m.

■ Practice Area Sponsored by Mahle (Turn 2; use Gate 12):

- Th. Noon - 5:00 p.m.
- Fri. 8:00 a.m. - 5:30 p.m.
- Sat. 8:00 a.m. - 3:00 p.m.

NOTE: Cars must complete all 4 parts of tech by 5:30 p.m. Friday to qualify for Endurance.

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

2017 FORMULA SAE® MICHIGAN

SCHEDULE OF EVENTS

TUESDAY, MAY 9, 2017 LOCATION

3:00 p.m. - 7:00 p.m. Early Registration (Teams MUST drop trucks/trailers in Paddock) Garage 1

WEDNESDAY, MAY 10, 2017

| | | |
|--|--|------------------------------|
| 9:00 a.m. - 9:30 a.m. | Welcome Ceremony - Sponsored by Honda | LOCATION Main Tent |
| Immediately Following Welcome Ceremony | Captain and Advisors Meeting | Main Tent |
| 10:00 a.m. | Tech Inspection Gear Check opens | Garage 2 |
| 5:00 p.m. - 6:00 p.m. | Design Judge Training | Garage 3 |
| 6:30 p.m. - 8:30 p.m. | Invitation-Only Reception | Champions' Club |
| 7:30 p.m. | Official Closing of the Site - EVERYONE MUST BE OFF SITE | |

THURSDAY, MAY 11, 2017

(ALL TIMES PRECEDED BY "~" ARE APPROXIMATE)

| | | |
|------------------------|--|------------------------|
| 8:00 a.m. | Drivers Meeting (Brake & Practice) - MANDATORY | Main Tent |
| 8:30 a.m. - 5:30 p.m. | Design Event - Sponsored by Bosch - 1st Round Judging Open | Garage 3 |
| 9:00 a.m. - 5:00 p.m. | Cost Judging Open | Main Tent |
| 9:00 a.m. - 5:00 p.m. | Presentation Judging Open | MIS Suites |
| Noon - 1:00 p.m. | Lunch Break | Main Tent |
| -2:00 p.m. - 3:30 p.m. | Autocross Sponsored by Magna Course Walk (weather permitting) | Backstretch by Gate 50 |
| 5:30 p.m. - 8:30 p.m. | Design Judges Meeting - Judges only | Off Site |
| 6:00 p.m. | Staging for Panoramic Photo (weather permitting) | Oval behind Suites |
| 6:00 p.m. | Drivers Meeting (All Dynamic Events) - MANDATORY | Main Tent |
| 7:30 p.m. | Official Closing of the Site - EVERYONE MUST BE OFF-SITE | |
| -9:00 p.m. | Design Finalists announced online | www.sae.org |

FRIDAY, MAY 12, 2017

(ALL TIMES PRECEDED BY "~" ARE APPROXIMATE)

| | | |
|------------------------|--|-------------------------|
| 7:30 a.m. - 8:30 a.m. | Autocross Walk Open | Backstretch via Gate 50 |
| 8:30 a.m. | Course Crew Briefing - Acceleration | Pit Lane |
| 8:30 a.m. | Course Crew Briefing - Skid Pad | Backstretch via Gate 50 |
| 8:45 a.m. | Course Crew Briefing - Autocross | Backstretch via Gate 50 |
| 9:00 a.m. - 4:00 p.m. | Design Feedback for Non-finalists (by appt only) | Garage 3 |
| 9:00 a.m. - 5:00 p.m. | Skid Pad Event Open (open during lunch) | Backstretch via Gate 50 |
| 9:30 a.m. - 5:00 p.m. | Autocross Event Sponsored by Magna Event Open (closed 1.5 hours for lunch) | Backstretch via Gate 50 |
| 9:30 a.m. | Presentation Seminar | Main Tent |
| 10:00 a.m. - 5:00 p.m. | Acceleration Event Sponsored by Roush Open (closed 1 hours for lunch) | Pit Lane |
| 12:00 p.m. - 2:00 p.m. | Lunch Break (staggered) | Main Tent |
| -5:00 p.m. | Staging for Panoramic Photo (weather make up date) | Backstretch via Gate 50 |
| -5:30 p.m. - 8:30 p.m. | Design Finals - Sponsored by Bosch | Garage 3 |
| -7:00 p.m. | Award Ceremony 1 - Sponsored by General Motors | Main Tent |
| 9:00 p.m. | Official Closing of the Site - EVERYONE MUST BE OFF SITE IMMEDIATELY FOLLOWING AWARD CEREMONY | |

SATURDAY, MAY 13, 2017

(ALL TIMES PRECEDED BY "~" ARE APPROXIMATE)

| | | |
|-------------------------|--|-------------------------|
| 7:00 - 8:00 a.m. | Endurance Sponsored by Ford Course Walk | Backstretch via Gate 50 |
| 8:15 a.m. | Course Crew Safety Briefing | Backstretch via Gate 50 |
| -8:30 am | Top 3 Teams Design Finalists Announced | |
| -9:00 a.m. - 2:00 p.m. | Design Feedback for Finalists not Top 3, by appointment | Garage 3 |
| 9:00 a.m. | Endurance/Fuel Efficiency Event Sponsored by Ford Open - Group 1 Only | Backstretch via Gate 50 |
| -12:00 p.m. | Endurance/Fuel Efficiency Gate Sponsored by Ford Closes for Group 1 | Backstretch via Gate 50 |
| -12:30 p.m. - 1:00 p.m. | Ford Endurance Course Walk | Backstretch via Gate 50 |

Ford

FORD GT



**IT TOOK YEARS OF PASSION
AND INNOVATION TO BUILD THIS CAR.
IT TOOK 24 HOURS AT LE MANS
TO PROVE IT.**

50 years after the original victory, the innovative balance of power and efficiency in Ford's EcoBoost® engine delivered an incredible class win at the 24 Hours of Le Mans. And the same EcoBoost technology that propels our supercar can be found in over 8 million engines that power many of our vehicles worldwide. That's just one of the ways we help drivers go further every day.



FORD PERFORMANCE

Race-prepared vehicle not available for sale.

2017 FORMULA SAE® MICHIGAN

SCHEDULE OF EVENTS

SATURDAY, MAY 13, 2017 *Cont.* (ALL TIMES PRECEDED BY “~” ARE APPROXIMATE)

| | |
|-------------|---|
| ~12:30 p.m. | Lunch Break |
| 1:30 p.m. | Course Crew back on track |
| ~1:35 p.m. | Endurance/Fuel Efficiency Event Sponsored by Ford Open - Group 2 Only |
| ~4:00 p.m. | Endurance/Fuel Efficiency Gate Sponsored by Ford Closes for Group 2 |
| ~5:30 p.m. | Public Viewing of Top 3 Design Finalists |
| ~6:00 p.m. | Public Design Review of Top 3 Finalists |
| ~7:00 p.m. | Presentation Highlights |
| ~ 8:00 p.m. | Final Awards Ceremony Sponsored by General Motors |
| 10:30 p.m. | Official Closing of the Site - All Teams and Transporters Must Exit IMMEDIATELY FOLLOWING AWARD CEREMONY |

LOCATION

| |
|-------------------------|
| Main Tent |
| Backstretch via Gate 50 |
| Backstretch via Gate 50 |
| Backstretch via Gate 50 |
| Main Tent |
| Main Tent |
| Main Tent |
| Main Tent |

SUNDAY, MAY 14, 2017

9:00 a.m. - 2:00 p.m. Site Open ONLY for Pick-Up of Transporters

NOTES

- Gate 21 open 6:00 a.m. – 1 hour after site closing Wednesday-Saturday. After hours, you must use Gate 12.
- Teams who participate in early registration MUST drop off their trucks/trailers in the paddock. No unpacking may be done on Tuesday. All teams may participate. Please use Gate 12.
- Site closed to teams May 15, 2017. Teams not shipping cars must remove them by 2 p.m. May 14, 2017.
- No Access During Dynamic Events - Teams may enter site with rigs/trailers/panel trucks ONLY when there are no Dynamic Events running.
- Medical Services - There is no First Aid Station on site. EMS will provide any/all medical attention.
- Overnight Removal of FSAE cars - Removal is allowed, but tech will pull Part 1 of your tech sticker.
- Shipping Cars - Teams shipping cars must have them removed from MIS by 10 a.m. May 15, 2017.
- FM Audio - Announcements can be heard via FM radio (Frequency will be posted in G1 at event).
- Thursday 6pm – Panoramic Photo Staging will start. Watch Formula SAE FB
- Event Closing Times - Acceleration, Skid-Pad & Autocross close exactly at the scheduled time. Your car must cross the starting line before the event closing time to be allowed to complete that run.
- Sponsor Skillshops Wed. 10:15 a.m. – 6:00 p.m. and Thurs. 8:30 a.m. – 4:15 p.m. Location: Suites 17 & 18.
- Student Breakfast Sponsored by Honda on Wednesday, May 10. Served in Main Tent during Welcome Ceremony.
- Lost and Found - The Announcer in the Main Tent will be the drop-off/pick-up point for any found/lost items. After hours, check with HQ in Garage 1.
- Teams must have their trailers packed and be ready to leave the site immediately following the Award Ceremony Saturday.

SUPPORT SERVICES

- **GM Machine Trailer:**
 - Wed.-Fri. 9 a.m. - 5 p.m.
- **Lincoln Electric Welding:**
 - Wed.: Noon - 5 p.m.
 - Th.-Fri. 8 a.m. - 5 p.m.
 - Sat. 8 a.m. - Noon
- **Sponsor Skillshops**
 - Wed.: 10:15 a.m. - 6:00 p.m.
 - Th.: 8:30 a.m. - 4:00 p.m.
- **Ambulance on site:**
 - Wed. - Sat. 7 a.m. - ~8 p.m.
- **MIS Fire trucks on site:**
 - Wed. - Sat. 7 a.m. - ~8 p.m.
- **GM Internet Cafe (GM Recruitment Tent)**
 - Wed. 10:00 a.m. - 6:00 p.m.
 - Th. 8:30 a.m. - 6:00 p.m.
 - Fri. 8:30 a.m. - 6:00 p.m.
 - Sat. 8:00 p.m. - 6:00 p.m.
- **Hoosier:**
 - Wed.-Fri. 7 a.m. - 5 p.m.
 - Sat. 7 a.m. - 3 p.m.
- **Human Solutions**
 - Wed.-Fri. 9:00 a.m. - 6:00 p.m.
- **ZF Photo Booth**
 - Wednesday & Thursday 9:00 a.m. - 5:00 p.m..

ADDITIONAL SERVICES

- **Concessions:**
 - Wed.-Sat 8 a.m. - 6 p.m.*

** As business dictates. May close earlier if deemed appropriate*

2017 FSAE MICHIGAN **AWARDS**

SPIRIT OF EXCELLENCE AWARD

This award recognizes the Top 10 finishers with overall highest accumulative scores.

STATIC EVENTS COST AWARD

This award recognizes the Top 3 finishers with overall highest accumulative scores in Cost.

BOSCH ENGINEERING DESIGN AWARD

This award recognizes the Top 3 finishers with overall highest accumulative scores in Design.

PRESENTATION AWARD

This award recognizes the Top 3 finishers with overall highest accumulative scores in Presentation.

DYNAMIC EVENTS ROUSH ACCELERATION AWARD

This award recognizes Top 3 finishers with fastest speeds/highest accumulative scores in Acceleration.

MAGNA INTERNATIONAL AUTOCROSS AWARD

This award recognizes Top 3 finishers with fastest speeds/highest accumulative scores in Autocross with a trophy.

FORD ENDURANCE AWARD

This award recognizes Top 3 finishers with fastest speeds/highest accumulative scores in Endurance.

FORD FUEL EFFICIENCY AWARD

This award recognizes Top 3 finishers who receive highest scores accumulated on best fuel efficiency.

SKID PAD AWARD

This award recognizes Top 3 finishers with fastest speeds/highest accumulative scores in Skid Pad.

SPECIALTY AWARDS

(These are special created sponsored awards; some may require application process)

AKEBONO BRAKE CORPORATION BRAKE DESIGN AWARD

Awarded to first place team for their vehicle Brake Design.

ALTAIR ENGINEERING'S WILLIAM R. ADAM ENGINEERING AWARD

Altair Engineering's William R. Adam Engineering Award Development of new and innovative design concepts for FSAE racing competition - \$1000, \$500

CUMMINS INC. APPLIED TECHNOLOGY AWARD

"Applied Technology" Award for the team that applies technology the most innovatively \$1,000, \$750, \$500

THE FEV POWERTRAIN DEVELOPMENT AWARD

Top 3 teams with overall excellence in Powertrain Development - \$2000, \$1000, \$500

THREE VIEW DRAWING EXCELLENCE AWARD

Awarded to the top ten Formula SAE teams who submit the best executed three view drawings, per the Formula SAE Rule S6.4.

MACLEAN-FOGG FASTENING CHALLENGE AWARD

This award is intended to reward team with the best solution to a fastening challenge at Formula SAE Michigan. - \$1,000, \$750, \$500

TOYOTA PERSEVERANCE AWARD

\$1,000 This award will recognize the team which demonstrates determined perseverance through the process of their car's design and build. Look for Toyota in the Paddock if you would like to nominate your team for this award.

Note: Although not guaranteed, some awards will include a cash award dependent on sponsorship. These and other awards will be detailed in the event program available at the on-site competition registration booth.



BOSCH

Invented for life

A man in a white racing suit is smiling and pointing towards the camera. In the background, a blue car is parked on a track with its trunk open, and two crash test dummies are visible inside. Another person in a white suit is standing near the car. The scene is set on a racetrack with grandstands in the distance.

Imagine your engineering idea
redefining mobility.

www.bosch-career.us

Welcome to a place where your ideas lead to something big. Welcome to Bosch. Whether automated driving, innovative drive technologies, or intelligent driver assistance systems: Bosch is leading mobility into new dimensions. Our key driver: improving people's quality of life by making the future more sustainable. This is only possible with the help of a global network of more than 375,000 highly committed employees, with pioneers who break new technical ground every day. So why not join us in starting something remarkable? **Make it happen.**

Let's be remarkable.

2017 FORMULA SAE MICHIGAN

REGISTERED TEAMS

AUSTRIA

- 2 Graz Technical Univ
- 3 U A S Graz

BRAZIL

- 11 Universidade de Sao Paulo

CANADA

- 37 Univ of British Columbia
- 42 Western University
- 44 Univ of Guelph
- 51 Carleton Univ
- 57 Univ of Victoria
- 58 Universite de Sherbrooke
- 63 McGill Univ
- 66 Dalhousie Univ
- 75 Univ of New Brunswick
- 78 Polytechnique Montréal
- 80 Ryerson Univ
- 84 Univ of Toronto
- 88 Ecole De Technologie Superieure
- 89 Lakehead Univ
- 96 Universite Du Quebec a Trois-Rivieres
- 100 Univ of British Columbia - Okanagan
- 110 Univ of Manitoba
- 123 Queen's Univ - Ontario Canada
- 126 Univ of Waterloo

GERMANY

- 1 Universitat Stuttgart
- 13 Technical Univ of Munich

MEXICO

- 106 Universidad Autonoma Estado Mexico

SINGAPORE

- 47 National Univ of Singapore

SOUTH KOREA

- 83 Kookmin Univ

UNITED STATES

- 4 Oregon State Univ
- 5 Michigan State Univ
- 6 Univ of Wisconsin - Madison
- 7 Missouri University of Science and Tech
- 8 Univ of Michigan - Dearborn
- 9 Univ of Florida
- 14 Florida Atlantic Univ
- 15 Univ of Alabama - Tuscaloosa
- 16 San Jose State University
- 17 Auburn Univ
- 18 Univ of Illinois - Chicago
- 19 Mississippi State Univ
- 20 Minnesota State University - Mankato
- 21 Brown Univ
- 22 Villanova Univ
- 23 Univ of Missouri
- 24 Purdue Univ - Northwest
- 25 Michigan Tech Univ
- 26 Columbia Univ
- 27 South Dakota School of Mines & Tech
- 29 Washington Univ - St Louis
- 30 Lehigh Univ
- 31 Univ of Louisiana - Lafayette
- 32 Louisiana State Univ
- 33 Univ of Maryland - College Park
- 34 Grand Valley State Univ
- 35 York College of Pennsylvania
- 36 Colorado Mesa University
- 38 Rensselaer Polytechnic Inst
- 39 Western Michigan Univ
- 40 Univ of North Florida
- 41 Lawrence Technological Univ
- 43 Georgia Institute of Technology
- 45 St Cloud State Univ
- 46 US Naval Academy
- 48 Univ of Connecticut
- 49 Univ of Illinois - Urbana Champaign
- 50 Rutgers Univ
- 52 Univ of Minnesota-Duluth
- 53 Univ of Toledo
- 54 Univ of Kansas - Lawrence
- 55 Tennessee Tech Univ
- 56 Univ of South Florida
- 59 Purdue Univ - W Lafayette
- 60 The Ohio State University
- 61 Northwestern Univ
- 62 Cooper Union
- 64 Penn State Univ - Harrisburg
- 65 Univ of Akron
- 67 Rochester Institute of Technology
- 69 Univ of Pittsburgh - Pittsburgh
- 71 Temple Univ
- 72 Saginaw Valley State Univ
- 73 Embry-Riddle Aero Univ - Daytona Beach
- 76 Univ of Hartford

- 77 Rose Hulman Inst of Tech
- 79 Univ of New Hampshire
- 81 Virginia Tech
- 82 Univ of Cincinnati
- 85 Univ of Kentucky
- 86 Indiana Univ Purdue Univ Indianapolis
- 87 West Virginia Univ
- 90 Univ of Massachusetts - Lowell
- 91 Saint Louis Univ
- 92 Kansas State Univ
- 93 US Air Force Academy
- 94 Stevens Inst of Tech
- 97 Kettering Univ
- 98 Univ of Puerto Rico-Mayaguez
- 99 Cornell Univ
- 101 North Dakota State Univ
- 102 Duke Univ
- 103 Univ of Central Florida
- 104 Univ of Evansville
- 105 Univ of Minnesota - Twin Cities
- 108 Washington State Univ
- 109 Clemson Univ
- 111 Univ of Michigan - Ann Arbor
- 112 Ferris State University
- 113 Central Michigan Univ
- 114 Florida Inst of Tech
- 116 South Dakota State Univ
- 117 Texas Tech Univ
- 118 Bradley Univ
- 119 Northern Illinois Univ
- 120 Oakland University
- 121 Texas State University-San Marcos
- 122 Penn State Univ - University Park
- 124 North Carolina State Univ - Raleigh
- 125 Univ of Nebraska - Lincoln

PUERTO RICO

- 98 Univ of Puerto Rico-Mayaguez

VENEZUELA

- 70 Universidad Metropolitana
- 107 Universidad Central de Venezuela
- 115 Universidad Simon Bolivar



Shaping “What’s Possible” for Mobility

Welcome to General Motors, where bold ideas are inspiring new ways to think about mobility. Expert engineering. Elegant design. Engaging performance — we’re gaining momentum and pursuing possibilities the industry has only imagined, from self-driving cars to full 4G LTE connectivity. Bring your talents to GM and tackle the industry’s most significant challenges, with all the resources you need to unlock tomorrow’s breakthroughs.

Graduates nationwide voted us one of Universum’s Top Attractive Employers in 2016 — ready to find out for yourself? Explore opportunities to work among the best at the forefront of your field in an entry-level, internship position or participate in our Technical Rotation and Career Knowledge (TRACK) program to launch the career of your dreams. Learn more at <http://careers.gm.com/student-center>

C A R E E R S . G M . C O M



made
for
more

GENERAL MOTORS

Universitat Stuttgart Rennteam Uni Stuttgart e.V.



The know-how of 11 years Rennteam Uni Stuttgart comes together with innovative ideas in the car's development. As flexibility plays a big role for us, we have built a chassis that consists of a CFRP-monocoque and a steeltube-rearframe to ease maintenance on engine and drivetrain parts. To keep the innovative engineering solutions up to date, we have improved our aerodynamic package and our heavy spring which together assure lightweight and increase vehicle dynamics. Complete Finish Win!

#Reliability #Vehicledynamics #Aerodynamics
 #Highpowertoweight #Efficiency #Package



BRAKE : 4-Disk system, adjustable brake balance, self designed rotors
BSCD : 66.5mm/44.5mm/4 cylinders/599ccm
COOLING : side mounted core dual radiator, fan mounted to back of each radiator
DRIVE : Sequential 4-speed gearbox, chain drive
ELECTRONICS : wiring harness, single connector to rearframe, digital steering wheel
ENGINE : Modified Yamaha YZF-R6 Rj09
FR/RR TRACK : 1140mm/1120mm
FRAME : Singlepiece Monocoque with tubular rearframe
FUEL SYSTEM : Self build fuel injection system using MoTec, fully sequential
FUEL TYPE : E85
MATERIAL : CFRP Sandwich Monocoque, steel rear-frame
MPD : 9500rpm
MPT : 7500rpm
OLWH : 3050mm, 1370mm, 1200mm
SUSPENSION : Double unequal length A-Arm. Heave-Spring system front and rear
TIRE : 10x7.5 - 18 R25B Hoosier
UNIQUE : AAB, heave-spring system, aluminium brake disks, >3000Km testing
WEIGHT : 256Kg
WHEELBASE : 1630mm



Graz Technical Univ TUG Racing Team



The central part of the TANKIA2016 is its one piece carbon fiber monocoque. The suspension is actuated via pullrods at the front and pushrods at the rear. The whole package is optimized for weight, tight packaging and center of gravity as the front coilovers are located under the monocoque at the front. The engine of use in the TANKIA is a heavily modified KTM 450 SX-F engine with a 510cm³ cylinder kit. It features a switchable self-developed airbox to improve the torque deployment and reduce compromises in the power output.

The gearshift is actuated pneumatically via paddles on the steering wheel and the clutch is electronically controlled. The exhaust was rerouted to have the muffler at the rear of the car in the lowest position possible to improve center of gravity. The electronic system is self-developed in order to achieve maximum flexibility. It consists of a Body Control Module that handles all control tasks, such as clutch, gearshift and cooling fans. As well as a Live Telemetry and a Smart Fusing System to distribute the energy. The TANKIA also features a DRS.



BRAKE : stainless steel, hub mounted, dia. 190mm drilled
BSCD : 95mm / 72mm / 1 cylinders / 510cc
COOLING : single side mounted aluminum core WP radiator, 413 cfm fan
DRIVE : Single 520 chain
ELECTRONICS : 3.2" display, multifunctional steering wheel, electric clutch actuation
ENGINE : KTM 500 EXC
FR/RR TRACK : 1197mm/1167mm 47inches/46inches
FRAME : one-piece CFRP monocoque
FUEL SYSTEM : inlet manifold injection
FUEL TYPE : 98 octane petrol
MATERIAL : carbon fibre prepreps, nomex and aluminium honeycombs
MPD : 9500
MPT : 7000
OLWH : 2900mm/1460mm/1195mm
 114inches/57inches/47inches
SUSPENSION : double unequal length A-Arm, pullrod actuated horizontal orientated damper
TIRE : 18 / 6 - 10 Hoosier Lc0
UNIQUE : CFRP uprights
WEIGHT : 500lb
WHEELBASE : 1550mm/61inches



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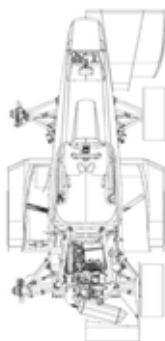
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The Austrian team known as "The Weasels" from the University of Applied Sciences FH Joanneum in Graz was founded in 2003 and is known for its innovative FS race cars with charged engines ever since. The team changes all of its members on a yearly basis, thus combining fresh ideas with many years of experience. That fact guarantees the constant evolution of the cars and resulted in their latest creation, the jr16. It has a hybrid chassis with a CFRP monocoque and a CFRP rear space-frame holding the engine. This is the fourth and last development stage of the self-made, turbocharged 2-cylinder engine with piezo direct injection and electro-pneumatic clutch and shifting actuation. The suspension was designed for racing with Continental C16 tires that are fitted on hand-laminated three-spoke one-piece 13" CFRP rims. A CFD-simulated aerodynamic package contributes to the perfect handling and guarantees amazing cornering speeds as well as a stunning appearance. Just like the high-end parts of the car are working together with perfection, so is the team of joanneum racing graz working as one to reach their goals and assert their strong position among the best FS teams in the world.

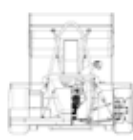


BRAKE : 2-circuit brake system with ABS
BSCD : 83 mm / 55 mm / 2 / 595 cc
COOLING : Water cooled, two sidwing mounted 52.800 mm² radiators with two 413 cfm fans
DRIVE : Gearwheels and differential integrated in gearbox
ELECTRONICS : Electro-pneumatic shifting/clutch actuation, highly durable wiring harness
ENGINE : Student designed, self-developed and tested
FR/RR TRACK : 1220 mm / 1180 mm
FRAME : CFRP monocoque sandwich construction with CFRP rear spaceframe
FUEL SYSTEM : High pressure direct injection with piezoelectric injectors
FUEL TYPE : 93 Octane
MATERIAL : Cast aluminum crank case, titanium con-rods and tungsten balancing shafts
MPD : 67 kW @ 6200 rpm
MPT : 139 Nm @ 4300 rpm
OLWH : 3000 mm, 1434 mm, 1200 mm
SUSPENSION : Double unequal length A-Arm, pull rod actuated spring/damper, adj. roll bar
TIRE : Continental C16 205/470 R13 - 34M
UNIQUE : Motorsport ABS, multi-functional steering wheel, traction and launch control
WEIGHT : 284 kg
WHEELBASE : 1580 mm



Global Formula Racing is an internationally collaborative SAE team from Oregon State University and DHBW Ravensburg. Together we build two cars, one combustion, one electric, every year, sharing chassis, aerodynamics and suspension packages. This year we are coming back to FSAE Michigan with our combustion car equipped with more power at less weight.

We are looking forward to seeing and competing with you in Michigan and we are pleased to answer any of your questions about our team and the car so stop by our pit!



BRAKE : Brembo AP calipers, Tilton master cylinders, student designed rotors
BSCD : 95mm Bore, 63.4mm Stroke, 1 Cylinder, 449.9cc
COOLING : Side mounted oil and water coolers
DRIVE : Chain drive
ELECTRONICS : Motec
ENGINE : KTM
FR/RR TRACK : 1145mm, 1145mm
FRAME : CFRP monocoque
FUEL SYSTEM : Honda CRF450R injector, in tank fuel pump
FUEL TYPE : 93
MATERIAL : Carbon, steel, aluminum, plastic
MPD : 10,000 RPM
MPT : 8,500 RPM
OLWH : 2865mm, 1350mm, 1200mm
SUSPENSION : Double unequal length a-arms, direct acting air suspension
TIRE : Hoosier 6.0/18.0-10 LCO
UNIQUE : German/American heritage
WEIGHT : w/ 150lbs driver: 450lbs
WHEELBASE : 1535mm



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Driver / Co-Driver



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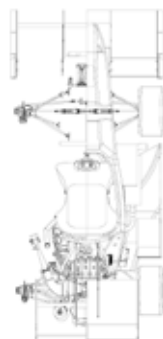
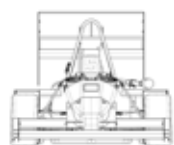
*While supplies last.



Michigan State University's Formula SAE Team would like to present this year's car, the SR-17. The SR-17 utilizes a hybrid front monocoque and a rear space frame chassis to provide packaging, cooling, and accessibility advantages. A Honda CBR600RR engine is incorporated to provide reliability and quick acceleration, with a 0-60 time of 3.0 seconds. Michigan State's newest vehicle also possesses a fully tunable suspension system that was designed around the 18" tire. Over 70 sensors are integrated to monitor vehicle and driver performance, along with design validation. Additional features include electro-pneumatic paddle shifting, traction control, and launch control to create a simple car-driver interface.

We thank Michigan State University and all of our sponsors, friends, and families for their contributions and support towards this invaluable learning experience.

Go Green. Go White. Go Fast.

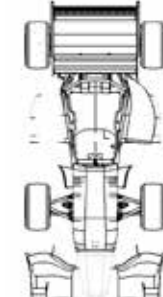
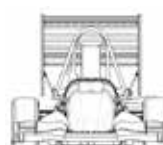


BRAKE : Brembo P34 front/Brembo P24 rear, Floating rotors, Sintered metallic pads
BSCD : 67 mm/42.5 mm/Inline 4 cyl/599 cc
COOLING : Rear mounted 25.4 mm core aluminum radiator
DRIVE : Chain-driven Drexler Differential
ELECTRONICS : Motec M400 with Bosch DDU7
ENGINE : Honda CBR600RR
FR/RR TRACK : 1193.8 mm/1168.4 mm
FRAME : Hybrid frame (Monocoque, Tubular space frame)
FUEL SYSTEM : Sequential fuel injection
FUEL TYPE : 93 Octane
MATERIAL : Carbon, Steel, Aluminum, Magnesium, Titanium
MPD : 10500 RPM
MPT : 9250 RPM
OLWH : 3047.2 mm, 1397 mm, 1178.3 mm
SUSPENSION : Double unequal length A-Arm, Push-rod actuated spring and damper
TIRE : Hoosier 18 x 6-10
UNIQUE : CAN bus, Electro-pneumatic shifting
WEIGHT : 575
WHEELBASE : 65



Wisconsin Racing would like to present the WR-217. This vehicle integrates an all new hybrid carbon fiber monocoque/steel space frame with a turbocharged, Yamaha YZ450F powertrain, and continued implementation of an aggressive aerodynamic package.

Wisconsin Racing would also like to give a special thank you to all of our sponsors and supporters that helped make this car possible.



BRAKE : Wilwood Front Calipers, AP Racing Rear Calipers, Custom Rotors
BSCD : 97 [mm] / 60.8 [mm] / 1 / 450 [cc]
COOLING : Twin-dual pass radiators
DRIVE : 520 Chain, Drexler Differential
ELECTRONICS : Motron ECU, AiM EVO3 Pro DAQ, LCD Steering Wheel Display
ENGINE : Turbocharged Yamaha YZ450F
FR/RR TRACK : 45 [in] / 45 [in]
FRAME : Hybrid CFRP Monocoque and Tubular Steel Spaceframe
FUEL SYSTEM : Student-designed Fuel Injection
FUEL TYPE : E85
MATERIAL : Prepreg CFRP, 4130 Steel, 7075 Al, 2124 Al, Inconel, 300M, Ti-6Al-4V
MPD : 69 [hp] @ 8500 [rpm]
MPT : 36.9 [ft-lbf] @ 10000 [rpm]
OLWH : 116 [in], 53 [in], 46 [in]
SUSPENSION : Double Unequal Length A-Arm, Pullrod Front, Pushrod Rear
TIRE : 10 [in] Hoosier
UNIQUE : Electronic Throttle, Electronic Shifting, Hybrid Monocoque
WEIGHT : 525 [lbm]
WHEELBASE : 63 [in]

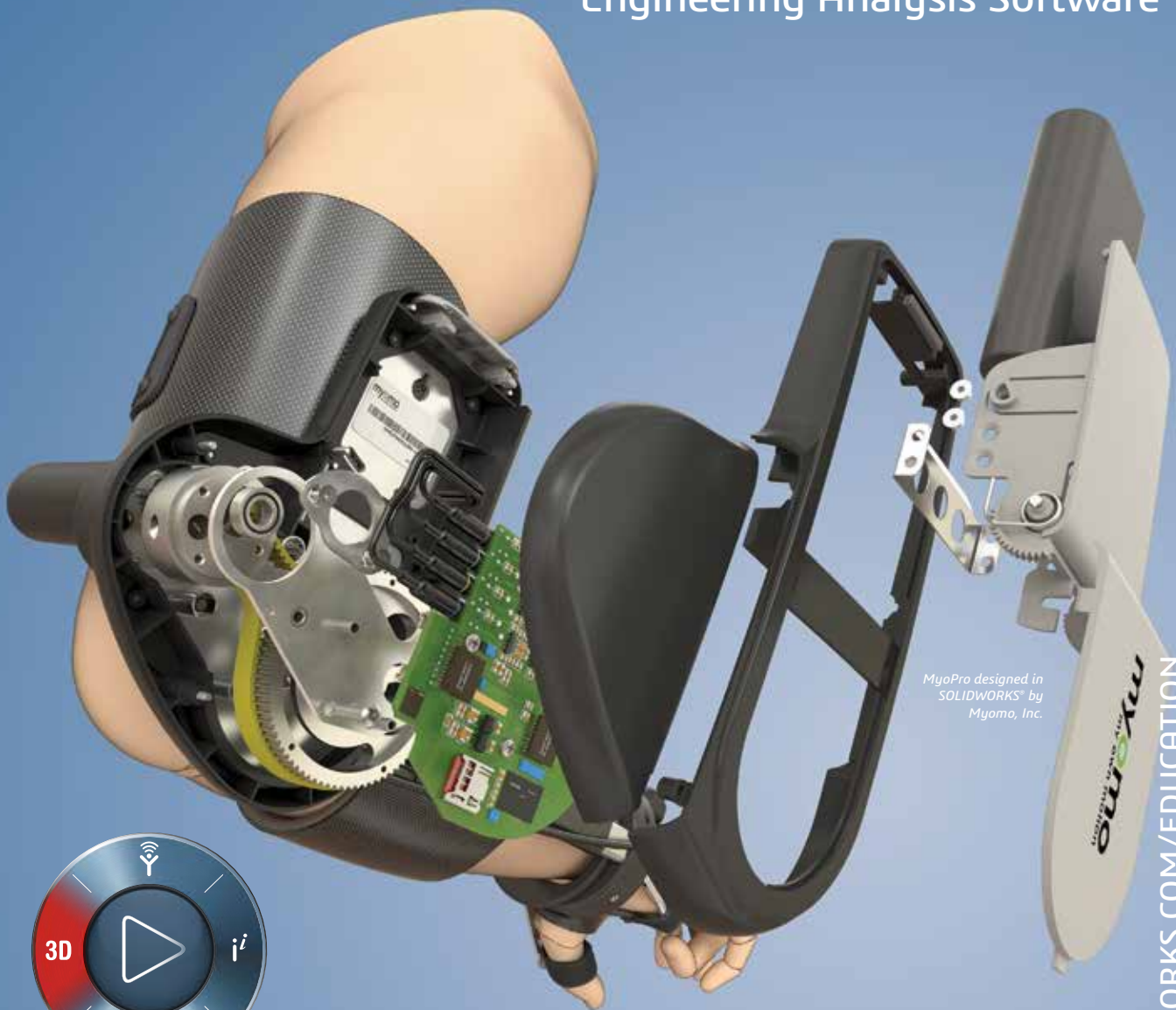




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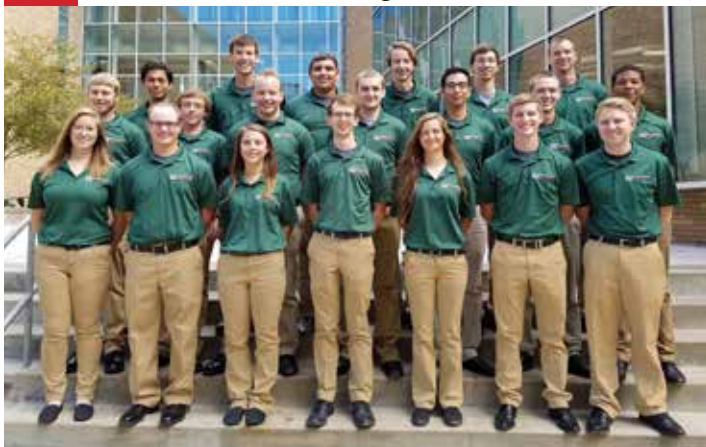


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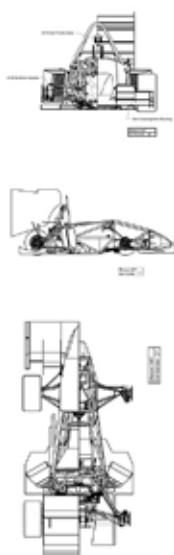


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Missouri S&T's 2017 Formula SAE car relies on a high down force, high horsepower platform. The vehicle is powered by a 4 cylinder Kawasaki ZX-6R engine, and utilizes an un-equal length double A-arm suspension and semi-unsprung aerodynamics package to ensure optimum tire contact. S&T Racing would like to thank our family, friends, and sponsors for supporting us throughout the year. We couldn't do it without your help!



BRAKE : Front ISR 4 Piston Monobloc, Rear 2 Piston Monobloc
BSCD : 67mm/42.5mm/4/600cc
COOLING : Dual Single Pass Radiators
DRIVE : Chain Drive
ELECTRONICS : Battery 6Ah A123 LiFePO4 Cells, AiM Evo4, MoTeC M600
ENGINE : 2012 Kawasaki ZX-6R
FR/RR TRACK : 1219mm/1194mm
FRAME : Tubular Space Frame
FUEL SYSTEM : Custom
FUEL TYPE : 100 Octane
MATERIAL : 4130 Chromoly Steel
MPD : 12000
MPT : 9500
OLWH : 3010mm/1448mm/1193mm
SUSPENSION : Un-Equal Length Double A-arm
TIRE : 18x7.5-10 Hoosier R25B
UNIQUE : Semi-Unsprung Aerodynamics Package
WEIGHT : 585lb
WHEELBASE : 1625mm



The design of the 2017 University of Michigan-Dearborn Formula SAE car centered around producing an easy-to-drive vehicle in a timely manner so as to allow for extensive driver training, vehicle tuning, and design verification and validation. This resulted in a vehicle system level design that focused on maximizing available grip and downforce, while decreasing vehicle weight.

Hope that all the time we could have spent getting decent grades results in a fast car.

#DearbornDifference



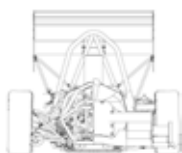
BRAKE : Tilton 77 Master Cylinders, AP Racing and ISR Calipers
BSCD : 77mm/53.6mm/2/499cc
COOLING : Water
DRIVE : CVT to Chain Drive
ELECTRONICS : Motec 150 ECU
ENGINE : Yamaha Genesis 80fi
FR/RR TRACK : F: 48 inches / R: 48 inches
FRAME : Welded Steel Space Frame
FUEL SYSTEM : Port Fuel Injection
FUEL TYPE : E-85
MATERIAL : Carbon Fiber, Titanium, Tears, Aluminum, Steel
MPD : 11,500
MPT : 9,250
OLWH : L: 3077 mm, W: 1455 mm, H: 1200 mm
SUSPENSION : F: Pushrod SLA, F: Pullrod SLA
TIRE : Hoosier 6" LCO
UNIQUE : Unsprung Aero, CVT, Drag-reduction system
WEIGHT : 550 lbs
WHEELBASE : 66 in





The F17 continues to build upon a proven vehicle platform, while making advancements in aerodynamic design and powertrain development. A holistic design approach integrates aerodynamics design with brakes, cooling and powertrain to improve individual system performance. Design changes were also made to improve the serviceability, packaging and reliability of the vehicle.

In remembrance of Khalil Mohamed.



BRAKE : Floating Hub Mounted 4340 Rotors

BSCD : 67mm/42.5mm/599cc

COOLING :

DRIVE : Kochler Torsen Differential

ELECTRONICS : MoTec M400, PDM30, and ADL3

ENGINE : Honda CBR600RR

FR/RR TRACK : 48in/47in

FRAME : Solid 4130 Chromoly

FUEL SYSTEM : Electric Sequentially Actuated Carburetors

FUEL TYPE : 93 Octane

MATERIAL :

MPD : 10500

MPT : 8000

OLWH : 117in, 55in, 46in

SUSPENSION : Double Unequal A-Arm, Pull Rod Actuated

TIRE : 20 x 7.0-13 R25B

UNIQUE :

WEIGHT : 595

WHEELBASE : 61in



United States



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The E14 prototype project of the EESC USP Formula SAE Team was guided by the following goals:

I - Prioritization of vehicular dynamics, through optimization of the car's behavior, searching for low mass values, polar moment of inertia and height of the center of gravity, besides the use of aerodynamic package; II - Alignment between performance and reliability to develop the project considering the integration between subsystems, the time and the resources (human and \$) available. The following proposals have been taken into account: a. Preliminary analysis and planning: It was determined which modifications and strategies would have the most significant results; b. Design made with CAD and CAE tools: The parts were designed for interchangeability, simplification of manufacture and assembly; c. Parts manufacturing, engine calibration and vehicle assembly: Focused on optimizing the time and quality of the assembly, reducing rework caused by assembly failures and enabling 4 full months of tests to stabilize the prototype; d. Tests: Dedicated to the choice of the best setups for each dynamic event, with the aid of sensing of the car for withdrawal of results, besides maintenance and periodic inspections;



BRAKE : Floating rotors with self-designed Aluminium Calipers

BSCD : 95mm/63.4mm/1 Cylinder/ 449cc

COOLING : Lateral mounted, 73370 mm² area. Core U flow radiator, with 1515 cfm fan

DRIVE : 520 Motorcycle chain, 5 gear engine original gearbox

ELECTRONICS : LiFePo4 battery, 60Wh, rectifier and regulator and alternator 260W

ENGINE : YFZ 450R

FR/RR TRACK : 1200mm/47.25in for both

FRAME : Tubular SAE 1020 Steel Space Frame, with MIG Welding

FUEL SYSTEM : Electronic Fuel Injection - Pro Tune PR440 with Bosch EV12 Injector

FUEL TYPE : Gasoline

MATERIAL : Carbon Fiber(wings), Titanium(wheel hubs), Al 7075-T6(wheel centers, uprights)

MPD : 44 cv (8000)

MPT : 42 N.m (7000)

OLWH : 2953,1mm/116.26in, 1405mm/55.31in, 1206.7mm/47.51in

SUSPENSION : Short-long Arm, pull rod actuated. Has adjustable Anti-Roll Bar.

TIRE : 18x6.0-10, R25B Hoosier

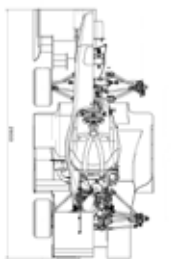
UNIQUE : Complex wings geometry, Aquisition Data Self-Designed and 800 km of tests.

WEIGHT : 588.72 lb

WHEELBASE : 1530mm/60.24in



The main goals designing the TUfast nb016 are lightweight, vehicle control and an aerodynamic package well-balanced between high downforce and efficiency. Analyses of lap time simulations and comparisons of different concept packages during the pre-design process set the basic properties of the car and concretize the car's goals. The consideration of all these aspects lead to the following compromise: total weight 158kg (348 lbs), c/a 6.0, aero efficiency 3.2. The target weight is achieved by running a KTM 570cc (34.8 cui) single-cylinder engine, full CFRP-monocoque with high stiffness-to-weight ratio and 10" LCO tires on CFRP-rims. In order to realize an adjustable vehicle behavior and to satisfy the varying demand of yaw rate in different states, an aerodynamic balance shift system (BSS) and a rear axle steering (RAS) are introduced. To accomplish a well-balanced aerodynamic package an adjustable front wing, an undertray with an integrated cooling system and an adjustable rear wing including a Drag Reduction System (DRS) are implemented. Their performance and interaction are further increased by an inboard front suspension, an aerodynamic optimized monocoque and closed rear rims.



BRAKE : self build floating design brake disc

BSCD : 570ccm

COOLING : water radiator fan, oil radiator

DRIVE : chain with spool differential

ELECTRONICS : Motec M800, ADL 3, Motec PDM

ENGINE : KTM singlecylinder

FR/RR TRACK : 1180,1230

FRAME : full CFRP Monocoque

FUEL SYSTEM : 8bar, single injector

FUEL TYPE : E85

MATERIAL : Al 7075 T6

MPD : 9500

MPT : 6500

OLWH : 2940mm,1500mm,1200mm

SUSPENSION : double a-arms, Pullrod front, Pushrod rear

TIRE : LCO

UNIQUE : rear axle steering, DRS, single rear inboard brake, spool differential

WEIGHT : 502 lb

WHEELBASE : 1550mm





Owls Racing proudly presents the OR-17! As Florida Atlantic University's 8th car to compete in Michigan, OR-17 is poised to perform better than ever. This year Owls Racing continued to refine the design that has been proven to work time and time again by cutting weight, improving packaging, and adding more driver aids into the car. The main focal points for OR-17 were reduce weight and improved manufacturability.

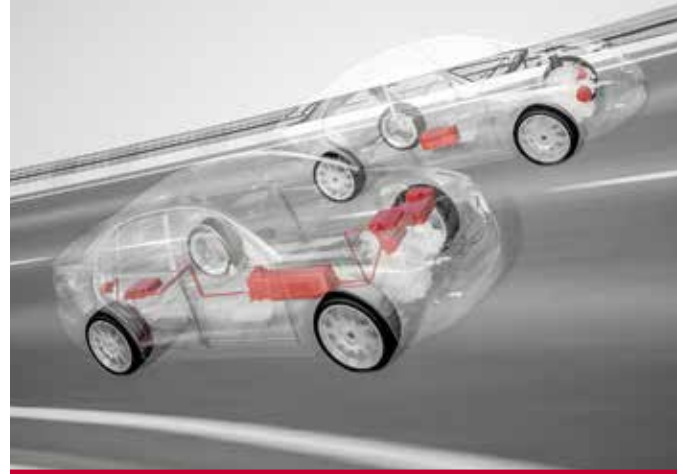
Notable changes to the OR-17 include the deletion of the rear differential box, redesigned differential mounts, and brand new rear suspension. The 2005 Suzuki GSX-R600 continues to power the racecar, with a custom-built race engine controlled by a Bosch MS4 Sport. With a redesigned cockpit, drivers have more room to steer and sit higher up, allowing for better visibility of the track. Manufacturability improved with new 4-lug hubs, new seat design, and steel uprights.

Owls Racing would like to thank all of our sponsors for helping us this season and SAE for hosting this awesome event.



BRAKE : 4 floating rotor, cast iron, Wilwood GP200
BSCD : 67.5mm/42.5mm/4-cylinder/610cc
COOLING : Single side-mounted radiator
DRIVE : 520 Chain Drive
ELECTRONICS : Bosch MS4 Sport
ENGINE : 2005 Suzuki GSX-R600
FR/RR TRACK : FR: 1295 mm/51" RR:1257 mm/49.5"
FRAME : 4130 Chromoly
FUEL SYSTEM : Sequential, Multi-Port Fuel Injection
FUEL TYPE : 100 Octane
MATERIAL : Carbon Fiber, 4130 Chromoly, 6061-T6 Aluminum
MPD : 11,500 RPM
MPT : 9,500 RPM
OLWH : L 2692mm; W 1473mm; H 1168mm
SUSPENSION : Double Wishbone Push-Rod Activated
TIRE : Hoosier 20.5x7.0-13 R25B
UNIQUE : Overdriven Outboard Shocks
WEIGHT : 469 lbs Wet/ 619 lbs Driver
WHEELBASE : 1,579 mm/62"

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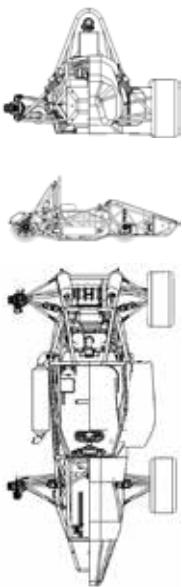
Crimson Racing



The CR17 features a major overhaul in design philosophy from previous years. This year, the team has switched to using 10" wheels and structural composites among other component alterations. These design changes will result in a weight reduction of over 50 lbs, making this the lightest car in The University of Alabama's FSAE history.

We could not have done this without the generous support of our sponsors, and we are looking forward to racing at this year's FSAE Michigan!

Roll Tide!



BRAKE : Floating Disc
BSCD : 65.5mm/44.5mm/4/600cc
COOLING : Side-mounted, single pass radiator with electric pump
DRIVE : Chain, Custom Custom Differential
ELECTRONICS : PE3 ECU, AIM Data Aq
ENGINE : 2003 Yamaha R6
FR/RR TRACK : 49"/48"
FRAME : Steel Spaceframe
FUEL SYSTEM : Fuel Injected with custom aluminum tank
FUEL TYPE : 93 Octane
MATERIAL : Aluminum, Steel, Magnesium, CFRP
MPD : 12500
MPT : 10000
OLWH : 103" ,57.5" ,40.5"
SUSPENSION : Double A-Arm, Direct Actuation Shocks
TIRE : 6.0/18.0-10 LCO
UNIQUE : Custom Differential Housing
WEIGHT : 600 lbs
WHEELBASE : 62 in



16

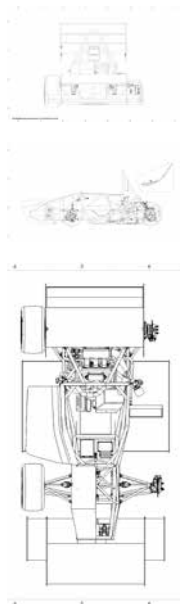
San Jose State University

Spartan Racing



The 2017 Formula SAE competitions marks the ninth consecutive year for San Jose State University's Spartan Racing Formula SAE team. SR-9 is an evolution of our previous years and features a 4130 steel tube frame, 10in Hoosier tires, and a full aerodynamics package. New for this year the car will be powered by a Triumph 675 3-cylinder engine running on E85 to take advantage of the rule change. Additionally, the team has upgraded to a MoTec L180 data logger to increase the data acquired during testing and help achieve our testing goals. While assessing the previous seasons, we found that the largest gains in vehicle performance were found during the testing phase. Emphasis on testing and validation is crucial to repeat high dynamic scores.

Spartan Racing would like to thank all of our sponsors, families, friends and alumni for their continued support!



BRAKE : Tilton 77 Series MC, Wilwood GP200 Calipers
BSCD : 74mm/52.3mm/3/675cc
COOLING : Dual Sidepod Mounted Radiators
DRIVE : Chain Driven Drexler Limited Slip Differential
ELECTRONICS : DTA S100 ECU, MoTec L180 DAQ
ENGINE : Triumph 675 Triple
FR/RR TRACK : 48in/47in
FRAME : 4130 Steel Space Frame
FUEL SYSTEM : Single-rail EFI
FUEL TYPE : E85
MATERIAL : 4130 Steel, Carbon Fiber, 3D Printed ABS, Aluminum
MPD : 80HP @ 9,000RPM
MPT : 52 Ft-lbs @ 7,000RPM
OLWH : 115in, 56in, 51in
SUSPENSION : Pull-Rod Front, Push-Rod Rear, Ohlin Shocks
TIRE : 18x6x10 Hoosier R25B
UNIQUE : Electro-Pneumatic Shifting, Electronic Throttle, Custom Dash and PDU
WEIGHT : 570lbs
WHEELBASE : 60.25in





AU-2017c is a complete redesign of the award winning 2016 car with the conversion to a full monocoque, switch to the Yamaha FZ-07, and further expansion of the aerodynamics package. Key design goals are: increase in downforce, better engine optimization, and reliability. 2017c is designed to be the fastest Formula SAE race car with emphasis on adaptability to changing race conditions and verification of changes through an enhanced data acquisition system. This is the beginning of a new era in Auburn University FSAE racing vehicles.



BRAKE : Floating Rotor, Adjustable Bias
BSCD : 80mm, 68.6mm, 2 , 698cc
COOLING : Triple Pass Radiator
DRIVE : Chain Drive, Salisbury Differential
ELECTRONICS : MoTec Electronics, Wireless Telemetry, Steering Wheel Display, Bosch ETC
ENGINE : Yamaha FZ-07
FR/RR TRACK : 1219/48//1194/47
FRAME : CFRP Monocoque
FUEL SYSTEM : In-Tank Pump, Port Injection
FUEL TYPE : 93 Octane
MATERIAL :
MPD : 9000
MPT : 6500
OLWH : 2987.446,1413.739,1195.553/117.616,55.6
 59,47.069
SUSPENSION : SLA
TIRE : 10" R25B/13" C16 rains
UNIQUE : One of the wings is at 69°
WEIGHT : 569
WHEELBASE : 1536.7/60.5


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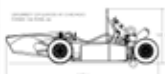
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Univ of Illinois - Chicago

UIC Motorsports



This year, UIC Motorsports focused on refining and testing the existing F16 design. A main focus was improving reliability and drivability. Additional changes include minor changes to the chassis and updated suspension geometry.



BRAKE : 4130 Floating Rotor, Tilton 76 Masters, PS1 Calipers

BSCD : 67.0mm, 42.5mm 4cyl, 599cc

COOLING : 9x9x2 Single Pass Radiator with Fan

DRIVE : 520 Chain, Drexler 45/60

ELECTRONICS : EL 129

ENGINE : Honda CBR 600 F4i

FR/RR TRACK : 1184 mm / 1156 mm

FRAME : 4130 Space Frame

FUEL SYSTEM : Multi point Port injection

FUEL TYPE : 93 Octane

MATERIAL : Carbon, Billet, Aluminum

MPD : 10,500

MPT : 7000

OLWH : 2,801 mm, 1,380 mm, 1,007 mm

SUSPENSION : SLA Push Rod

TIRE : 18.0 x 6.0-10 LCO Hoosiers

UNIQUE : Digital Steering Wheel Display

WEIGHT : 600 lb

WHEELBASE : 1570 mm

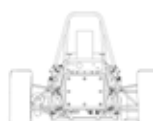
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Mississippi State Univ

Mspeed



The M-SPEED 2017 competition vehicle is an effective redesign from previous years, implementing engineering designs emphasized on simplicity to ensure a reliable vehicle and a successful racing season.



BRAKE : Wilwood M/Cs PS1

BSCD : 67.0/47.5mm 4 cyl. 599 cc

COOLING : Side mounted radiator

DRIVE : Drexler Student V2

ELECTRONICS : Aim EV04 Data

ENGINE : Honda CBR 600 F4i

FR/RR TRACK : 48.5/48.5 inches

FRAME : Steel Space Frame

FUEL SYSTEM : Port Injection, Stock Rail

FUEL TYPE : 93 Octane

MATERIAL : 4130 Steel

MPD : 10500

MPT : 9000

OLWH : 111, 58, 42 inches

SUSPENSION : Dual Unequal Length Wishbone

TIRE : Hoosier 20.5x7.5-13 R25B

UNIQUE : Mechanical Paddle Shifting

WEIGHT : 650 lb

WHEELBASE : 61 inches



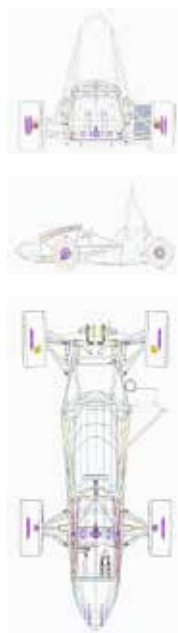
United States



United States



Minnesota State University Mankato's 2017 FSAE car is a legacy from previous years' cars. Designed to outperform previous cars by reducing overall weight by ten percent and perfecting the vehicles handling. While the cars frame was modified to help weight distribution it still retains many aspects and designs from previous years. Keeping ergonomics in mind the cockpit was made larger for improved driver comfort and accessibility to controls. By adding bolstering and improving driver position the new fiberglass seat helps to secure the driver during dynamic events. The pedal box was redesigned to provide a better mechanical advantage for the master cylinders resulting in better braking characteristics. The throttle actuation was improved by adding a cam to increase throttle response. The YZF450r engine is carried over, however its now running a Mitsubishi turbocharger with opposed flow secondary injection to create more usable power. With the new turbocharger, the engine will have a broader power band making peak power and torque lower in the RPM range. By optimizing last years' designs we are able to build a more reliable and well-tuned car. By not radically changing designs, this years' car will be completed sooner, allowing more testing and validation before competition.



BRAKE : Four wheel disk, floating rotors
BSCD : 95.0mm Bore, 63.4mm Stroke, 1-Cyl, 449cc
COOLING : Side-mounted radiator with fan
DRIVE : Chain
ELECTRONICS : MoTec M130/C185
ENGINE : Yamaha YFZ450r
FR/RR TRACK : 47.5"/46.5"
FRAME : Tubular Steel Spaceframe
FUEL SYSTEM : EFI with Secondary Injection
FUEL TYPE : E85
MATERIAL : 1020 DOM
MPD : 9000
MPT : 7000
OLWH : 105"/57"/49.75"
SUSPENSION : F/R Unequal Length A-Arms with Push-rods Front and Rear
TIRE : 18.0"x6.0" LCO
UNIQUE : Opposed Flow Secondary Fuel Injection
WEIGHT : 550 lbs
WHEELBASE : 61in

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BRAKE EXPERTS

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Brown Univ

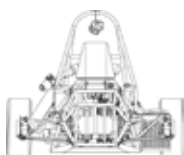
Brown Formula Racing



Brown Formula Racing is one of FSAE's oldest teams, having participated in the very first FSAE competition, and in 19 of the 20 most recent seasons. Considered by some the "crown jewel of the School of Engineering", we are one of the most popular student design teams at Brown University. However, popularity does not beget success, as we know well. It has been four years since we last competed in the Endurance event, and five since we finished the event.

This year, we are taking a back-to-basics, fundamentals-focused approach to "Rhode Warrior", our 2017 model. Starting last June, every system was analyzed under one guiding question: "Will it help us finish Endurance with confidence?" This meant jettisoning complicated or poorly-understood systems, including our aerodynamic undertray and custom dry sump oil system, in favor of more reliable and cost-effective systems, such as a lightweight bottom and billet-machined wet sump. It also meant implementing a rigorous design review system, complete with hard deadlines and countermeasures.

The result is a vehicle that is robust and, at times, downright elegant in design. Go Rhode Warrior!



BRAKE : Custom Steel Rotors, AP Racing MC, Wilwood Calipers

BSCD : 67 mm / 42.5 mm / 4 cyl / 599 cc

COOLING : Water cooled with dual fan radiator

DRIVE : Chain drive, Drexler Limited Slip Differential

ELECTRONICS : Performance Electronics PE3 ECU, AiM Evo4 Datalogger, custom RasPi Telemetry

ENGINE : Honda CBR600RR

FR/RR TRACK : 47.2" / 47.6"

FRAME : Steel space frame

FUEL SYSTEM : Stock

FUEL TYPE : 100 Octane Gasoline

MATERIAL : Steel, Aluminum, Carbon Fiber

MPD : 11000

MPT : 8500

OLWH : 103.9", 53.5", 44.9"

SUSPENSION : Double unequal A-Arms, push-rod dampers and springs

TIRE : 18.0" x 6.0" - 10 Hoosier R25B

UNIQUE : In-seat driver-adjustable pedalbox

WEIGHT : 600 lbs

WHEELBASE : 62.2"



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Villanova Univ

Villanova Formula SAE



Villanova University's 2017 entry into the Formula SAE competition represents the team's ninth competing year. Last year's car, VU08, broke team records placing 3rd in acceleration, 5th in cost, and 12th in design. With a new 10" wheel package, a fully redesigned chassis, and a proven Yamaha R6 powertrain, VU09 is well equipped to surpass the success from last year and build upon the advancement of the team's capabilities.



BRAKE : 4 piston ISR front, 2 piston AP rear

BSCD : 67mm/42.5mm/4/599cc

COOLING : Water cooled

DRIVE : Chain

ELECTRONICS : PE3 ECU, AiM EVO 3

ENGINE : Yamaha YZF-R6

FR/RR TRACK : 48"/46"

FRAME : 4130 steel spaceframe

FUEL SYSTEM : Fuel injected

FUEL TYPE : 100 octane

MATERIAL :

MPD : 13500

MPT : 9300

OLWH : 99"/55"/39"

SUSPENSION : Double unequal length a-arms, push rod actuated Ohlins TTX25

TIRE : 18.0x6.0-10 R25B (front) 18.0x7.5-10 R25B (rear)

UNIQUE : 8 point harness

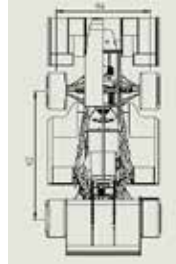
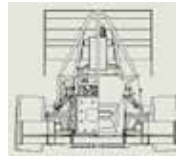
WEIGHT : 570 lb

WHEELBASE : 61.6"





Mizzou Racing's 2017 entry is fronted by our switch to 10 inch wheels, allowing for reduced unsprung weight while maintaining optimal grip. The car is designed to be simple and easy to manufacture, allowing us to finish the car early and get the most out of testing. Direct acting shocks reduce complexity in the front, and the new aluminum rear structure allows for lightning-fast engine swaps and efficient packaging of the rear suspension, Drexler differential, and Hindle muffler.



BRAKE : Outboard disk, Willwood Calipers, Tilton Master Cylinders

BSCD : 2.64x1.57 4cyl 600cc

COOLING : Air Cooled

DRIVE : Chain Drive w/ Drexler Differential

ELECTRONICS : MoTeC M150

ENGINE : Honda CBR600RR

FR/RR TRACK : 1168/1168mm 46/46in

FRAME : 4130 Steel Enclosed Cockpit

FUEL SYSTEM : Electronic Fuel Injection

FUEL TYPE : 93 Octane

MATERIAL :

MPD : 10,500 RPM

MPT : 9,000 RPM

OLWH : 2959x1422x1193mm

SUSPENSION : Unequal length double wishbone, Ohlins dampers

TIRE : Hoosier R25B 18.0x7.5-10

UNIQUE :

WEIGHT : 600lb

WHEELBASE : 1575mm 62in



United States



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Purdue Univ - Northwest

PNW Motorsports



Purdue University Northwest is in its second season of Formula SAE. Our objective was to reduce weight from last year's car, and to also maintain reliability. We will be using a Honda CBR600 F4i, with a 4130 steel space frame. With upgrades to our suspension and intake design, as well as the addition of a realtime telemetry system, we look forward to taking the next step at competition. Hope to see you all in Michigan!

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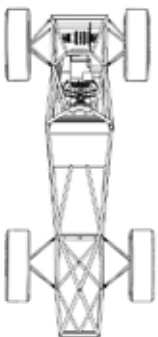
Michigan Tech Univ

Michigan Tech Formula SAE

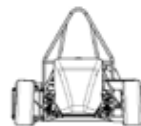


The Michigan Tech Formula team has been hard at work implementing new technologies into this year's competition car, the F-260. The team has been focusing on weight reduction throughout all aspects of the car. With a new student-machined differential housing, the team is pushing to reduce weight wherever necessary. Some other new features on this year's car is a 3-D printed intake and a conical muffler. The 3-D printed intake was designed to provide more torque at higher engine speeds. The new conical muffler allowed for the muffler to be smaller and lighter. The car utilizes a CVT for ease of drivability and a 3-D printed dash for a more simplistic design.

The Michigan Tech Formula Team would like to thank Michigan Technological University, all of our sponsors, and our supporters - our experience would not be possible without their help.



BRAKE : 4 Wheel Disk Brakes, Wilwood PS1 Caliper, 9" Rotor
BSCD : 42.5mm / 67mm / 4 cylinders / 599 cc
COOLING : Water Cooled
DRIVE : Chain Drive, Drexler LSD
ELECTRONICS : Integrated Power Control Module, PE3 ECU
ENGINE : Honda CBR600 F4i
FR/RR TRACK : 47.6, 46.4 (in)
FRAME : Steel Spaceframe
FUEL SYSTEM : Fuel-Injected
FUEL TYPE : 93 Octane
MATERIAL : 4130 Frame
MPD : 12500
MPT : 10200
OLWH : 105, 51, 48 (in)
SUSPENSION : Pull Rod Front, Push Rod Rear
TIRE : 13" Hoosier R25B
UNIQUE : Realtime CANbus/ Arduino Telemetry System
WEIGHT : 650 lbs
WHEELBASE : 62.2 (in)



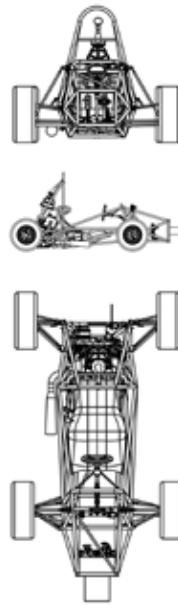
BRAKE : Wilwood Calipers, Custom CNC Floating Rotors
BSCD : 77mm / 53.6mm / 2 cyl. / 499mm
COOLING : Water to Air Single Pass Radiator
DRIVE : CVT with Torsen Differential
ELECTRONICS : PE3 ECU
ENGINE : Yamaha Phazer (Genesis 80fi) 500cc
FR/RR TRACK : 1206.5 mm / 1181.1 mm (47.5 in / 46.5 in)
FRAME : 1020 Steel Spaceframe
FUEL SYSTEM : Sequential Port Fuel Injection
FUEL TYPE : 93 Octane
MATERIAL : Carbon fiber, Steel, Aluminum
MPD : 48 HP (10,500)
MPT : 26 ft-lbs (9,000)
OLWH : 2235.2 mm, 736.6 mm, 685.8 mm / 88 in, 29 in, 27 in
SUSPENSION : Double Wishbone
TIRE : 10 in Hoosier LC3
UNIQUE : Student-Machined Differential Housing
WEIGHT : 618.9 lb
WHEELBASE : 1549.4 mm (61 in)





Knickerbocker Motorsports of Columbia University is proud to introduce KMR-17. KMR-17 is designed to build off the successes of last year's platform changes, including the transition to 10" wheels, a CBR600RR engine, and a Motec ECU. Design iterations were guided and validated through the extensive testing and data analysis of KMR-16, and a rejuvenated electronics and data acquisition system is being implemented to ensure a tradition of results driven design. This year we focused on reliability, testing, and validation to produce a car that performs competitively in all dynamic and static events.

We would like to thank all of our sponsors, advisers, friends, and family for their support and allowing us to represent them and Columbia Engineering at competition.



BRAKE : Outboard, Floating, Grey Cast Iron, ISR Front Calipers, Brembo Rear Calipers
BSCD : 67mm / 42.5mm / 4 cyl / 599cc
COOLING : Side Mounted Radiator
DRIVE : Chain Drive, Drexler Differential
ELECTRONICS : Motec M130
ENGINE : Honda CBR600RR
FR/RR TRACK : 48", 46"
FRAME : Steel Space Frame
FUEL SYSTEM : Sequential Electronic Fuel Injection
FUEL TYPE : 100 Octane
MATERIAL : 4130 Steel
MPD : 80HP @ 9500
MPT : 45 ft-lbs @ 8500
OLWH : 102", 56", 45"
SUSPENSION : Unequal Length, Double A-Arm, Pushrod
TIRE : Hoosier 18.0x7.5-10 R25B
UNIQUE : Electro-pneumatic Paddle Shift, Dry Sump
WEIGHT : 620 lbs
WHEELBASE : 61"



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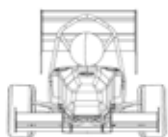
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A primary goal was to minimize weight and maximize reliability through testing for the 2017 season. In previous years, the team decided to use composite materials for the primary vehicle structure. Because of the experience gained and investments made, the team decided to stick with a hybrid style chassis.

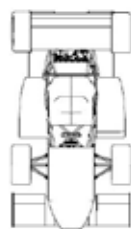
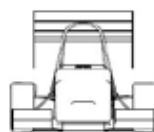
For 2017, a considerable investment was made in the design and manufacture of the frame in order to improve the chances of an effective structure. It was accepted that, although resources available for some of the other systems in the 2016 design would be redirected towards the chassis, this would provide the strongest platform for development by future generations of the team. An equally critical design consideration for the team was the driveability of the vehicle. The intent was to shorten the familiarization curve for drivers getting in the vehicle in order to lessen the amount of training required for peak driver performance in this specific car, this focus is a worthwhile pursuit because it fits the simulated sales market.



BRAKE : AP Brake System
BSCD : 96.0 mm / 62.1 mm / 1 / 449 cc
COOLING : Adams Thermal Radiator with Fan
DRIVE : Chain
ELECTRONICS : MoTeC M130 ECU
ENGINE : Honda CRF450X
FR/RR TRACK : 1190mm, 1116 mm / 47 in, 44 in
FRAME : Hybrid
FUEL SYSTEM : Student-Made Fuel Tank, CRF450R Fuel Pump, Port Injection
FUEL TYPE : E85
MATERIAL : CFRP
MPD : 7500
MPT : 7000
OLWH : 2720 mm, 1328 mm, 1112 mm / 107 in, 52 in, 44 in
SUSPENSION : Unequal/Converging with Pull-Rod
TIRE : 18.0x6.0-10 R25B
UNIQUE : Laser Deposited Uprights
WEIGHT : 240 kg
WHEELBASE : 1530 mm / 61 in



Wash U Racing's BFKR-17 is the sixth generation of our BFKR platform. It has been thoroughly redesigned with a focus on weight reduction and reliability. Our clean-sheet frame design provides a strong, spacious, and lightweight foundation for the car. Revised packaging improves driver comfort and front suspension integration. Through extensive analysis we have aggressively reduced the weight of components throughout the car and optimized the body design for minimal drag. We are building on last year's aerodynamic undertray with a full aero kit featuring two-element front and rear wings as well as a simplified undertray design. We continue to refine our Yamaha YZF-R6 powertrain to deliver improved reliability and efficiency in addition to its strong power and flexibility. This year's car and all the hard work that went into it is dedicated to Whitley Russo, a loyal alumni of the team who tragically passed away this year.



BRAKE : Iron Floating Rotors with 2 Piston Fixed Calipers
BSCD : 67 mm/42.5 mm/Inline-4/599cc
COOLING : Side-mounted single pass radiator with electric fan and duct
DRIVE : 6 Speed, Chain Drive, Drexler Limited Slip Differential
ELECTRONICS : AEM EMS-4, Custom Wireless Telemetry
ENGINE : Yamaha YZF-R6
FR/RR TRACK : F: 47 in R: 45 in
FRAME : Steel Space Frame
FUEL SYSTEM : Multi-Point Fuel Injection
FUEL TYPE : 93 Octane
MATERIAL : 4130 Steel, CFRP Body
MPD : 11,300 rpm
MPT : 10,000 rpm
OLWH : L: 104 in W: 55 in H: 47 in
SUSPENSION : Double Unequal Length A-Arm, Pushrod
TIRE : 20.5"x7.0" Hoosier R25B
UNIQUE :
WEIGHT : 610 lbs
WHEELBASE : 63 in





Lehigh Racing's X47 design philosophy is to go back to basics with a steel space frame chassis and subsystems designed around reliability. The goal of this design is to provide the team with a stable concept that can be improved upon in future years. The suspension system was designed with as much adjustability as possible, to allow substantial driving data to be gathered which will drive the design of the suspension in the future for increased performance. The team started this year with a brand new Yamaha YFZ450R, which has been tuned on our personal engine dyno. This dyno has been a project for several years, and features an engine-specific controller with feedback control capabilities. Additionally, the engine has a Rekluse slipper clutch and is run by a Microsquirt ECU. The team has also invested time into carbon fiber research, gathering data on its signature single flexure carbon fiber A-Arms.



BRAKE : Wilwood PS1 Calipers, Brembo 11mm Master Cylinders

BSCD : 95mm/64mm/1/450cc

COOLING : Mishimoto Aluminum Radiator with Electric Fan

DRIVE : Chain Driven Locked Spool

ELECTRONICS : Microsquirt ECU

ENGINE : Yamaha YFZ450R

FR/RR TRACK : 1110mm/1070mm

FRAME : Steel Space Frame

FUEL SYSTEM : Sequential EFI

FUEL TYPE : 93 Octane

MATERIAL : 4130 Chromoly, Carbon Fiber

MPD : 10,000

MPT : 5,500

OLWH : 2600,1290,1110

SUSPENSION : Non Parallel Unequal Length Double Wishbone Carbon Fiber

TIRE : Hoosier 6.0/18.0-10 LCO

UNIQUE : Single Flexure Carbon Composite AArms

WEIGHT : 525

WHEELBASE : 1550mm



United States

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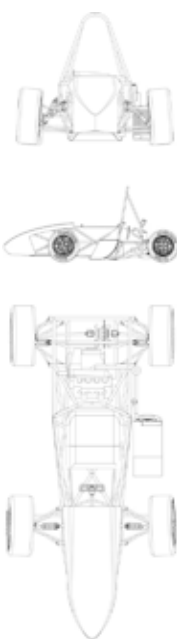
Univ of Louisiana - Lafayette

Ragin' Cajun Racing



We're a first year team who chose to focus on simplicity and reliable. Our goal for this year is to establish a good foundation for which to build off of in the years to come. With that in mind the car is built around a chromoly spaceframe and is powered by the proven cbr f4i engine. The drivetrain relies on a Quaife ATB differential and features an eccentric mount for easy chain. The suspension system is a direct damper design and allows for ride height adjustment through the use of shims.

We're excited to be here competing at Michigan for the first time and look forward to our program growing



BRAKE : 4 caliper outboard single piston
BSCD : 600cc
COOLING : Stock Radiator w/ custom duct and fan
DRIVE : Chain Drive Quaife ATB
ELECTRONICS : PE3 ECU
ENGINE : CBR F4i
FR/RR TRACK : 1270/1219 50/48
FRAME : Chromoly Spaceframe
FUEL SYSTEM : fuel injection
FUEL TYPE : 93 Octane
MATERIAL :
MPD : 65hp
MPT : 50lbft
OLWH :
SUSPENSION : Direct Dampers
TIRE : Hoosier 20.5x7 - 13 R25B
UNIQUE :
WEIGHT : 650
WHEELBASE : 1651 / 65



United States

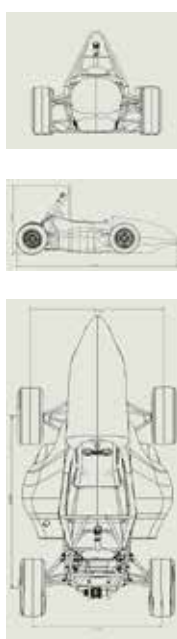
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Louisiana State Univ

TigerRacing



LSU TigerRacing has grown into a larger team and brings a new car with the designs of some of our newer members. This year's car "Sierra" has some minor changes from the 2016 car, including a shorter frame, changes in engine internals, and refined side pods. Our main goals this year were to lose weight from last year's design and improve design processes and validation. The team chose to remain with the CBR600 F4i engine, while making significant changes to our suspension components, chassis, and ergonomics.



BRAKE : Floating 4130 Rotors, Tilton Master Cylinders
BSCD : 62x42.5, 599cc
COOLING : Dual Pass Aluminum Radiator with External Electric Water Pump
DRIVE : Drexler Limited Slip, Unequal Length Axles
ELECTRONICS : Performance Electronics Stand Alone ECU
ENGINE : Honda CBR600 F4i
FR/RR TRACK : 1250, 1200
FRAME : 4130 Space Frame
FUEL SYSTEM : Fuel Injected, Inline Pump
FUEL TYPE : Gasoline, 100
MATERIAL : Unobtainium
MPD : 10500
MPT : 10500
OLWH : 2700x1450x1142
SUSPENSION : Unequal Length A-arm, Pull Rod Front, Push Rod Rear
TIRE : 20.5x7R13 R25B
UNIQUE :
WEIGHT : 267 kg
WHEELBASE : 1600



United States



The University of Maryland is proud to announce their entry into the 2017 Michigan Formula SAE Competition with their latest vehicle, TR17. The team began the development of this vehicle with a complete reanalysis of competition strategy, focusing on creating a unified design that will maximize the points earned across all events. Point mass laptime simulations and quasi-transient handling diagrams were utilized to refine the design of the car.

Terps Racing would like to thank our dedicated sponsors for the time and effort they've spent with our program.

BRAKE : Ultralite 240 Series Front, AP Racing CP4227 Rear

BSCD : 67[mm] / 42.5[mm] / 4 / 599[cm³]

COOLING : Water Cooled, Dual Radiator

DRIVE : RWD, Drexler Limited Slip Differential

ELECTRONICS : Performance Electronics PE3 ECU, Autosport Labs Booz-Allen-Hamilton DAQ

ENGINE : Honda CBR600RR

FR/RR TRACK : 1219[mm] / 48[in] FR and RR

FRAME : TIG welded Spaceframe

FUEL SYSTEM : Electronic Port Fuel Injection

FUEL TYPE : 93 Octane Gasoline

MATERIAL : 4130 Chromoly Steel

MPD : 12500

MPT : 7000

OLWH : (1256, 1473, 1200) [mm], (117, 58, 47) [in]

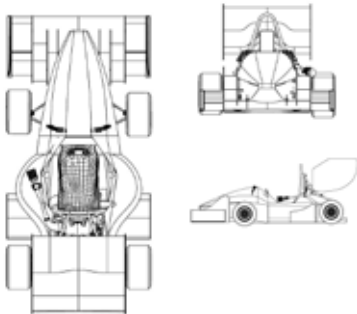
SUSPENSION : Dual Unequal-Length A-Arms, Pushrod Actuated Coilovers

TIRE : Hoosier 18x7.5-10 R25B

UNIQUE : Driver Actuated Brake Torque Vectoring

WEIGHT : 600 [lbs]

WHEELBASE : 1549 [mm] / 61 [in]



United States



MACLEAN-FOGG

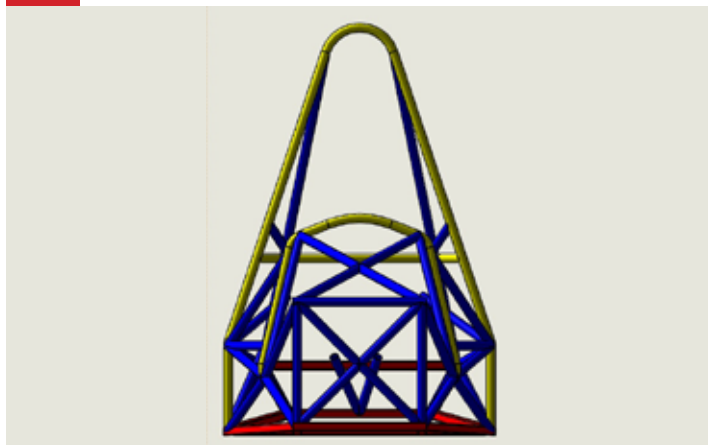
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Formula Michigan 17 will be Laker Racings third ever competition. The goals this year for the car were to improve frame rigidity, suspension geometry, ergonomics, and drivability. Other goals for the year were to build the team by gaining and retaining new members and gaining new local support through sponsors. The car competing at MIS previously raced at Formula Lincoln in 2016, but with modification. Some of the modifications include; redesigned adjustable pedal box, custom molded racing seat, carbon fiber body components, pneumatic shifting, redesigned rear suspension, structural frame modifications for rigidity, and a redesigned throttle body. This car was originally designed to be easy to work on, and will still be a high priority with the modifications. The molded seat, adjustable pedal box, and pneumatics were implemented to improve the drivers experience. This also allows the car to be driven by people of many sizes and driving abilities, broadening the market for potential customers.



BRAKE : Brembo single caliper disc brakes
BSCD : 67.0mm/42.5mm/4/600cc
COOLING : Water-cooled C
DRIVE : Chain Drive
ELECTRONICS : Performance Electronics PE3
ENGINE : CBR600RR
FR/RR TRACK : 1270/1207mm
FRAME : Tubular Space Frame
FUEL SYSTEM : Performance Electronics PE3
FUEL TYPE : Unleaded 93 octane
MATERIAL : 4130 Chromoly steel
MPD :
MPT :
OLWH : 2972,1524,1270 mm
SUSPENSION : Unequal length double a-arm, push rod suspension
TIRE : 20.0 x 7.0-13: R25B
UNIQUE : Adjustable pedals, pneumatic shifting, carbon fiber body panels
WEIGHT : 690lbs
WHEELBASE : 1778 mm



York College Racing returns to Michigan International Speedway with many new features. Our suspension team utilized OptimumG software and extensive destructive material testing, to design and develop new carbon fiber control arms, tie rods, push rods, steering column, and half-shafts with steel insert connections. This new innovation allowed York College Racing to significantly reduce the weight of our suspension systems. We moved to an Aprilia 450 SXV engine to maximize power-to-weight ratio under the restricted intake requirement. The car also includes additional new ergonomic and performance features: an adjustable pedal assembly, a Trail Tech Voyager digital driver display, and a dual air duct system for optimum engine cooling. With these new additions, York College continues to incorporate innovative designs in our York College Racing formula team.

We would like to thank our friends, families and sponsors for their continued support.



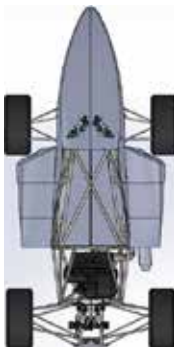
BRAKE : Hyper Racing Adjustable Pedal Assembly, Wilwood Master Cylinders
BSCD : 16mm/28mm/2 cyl.
COOLING : Twin Mounted Radiators w/ Fan
DRIVE : Taylor Racing Differential, chain driven
ELECTRONICS : Walbro ECUC-1, Trail Tech Voyager with GPS
ENGINE : Aprilia SXV 450
FR/RR TRACK : 1219mm(48in) / 1219mm(48in)
FRAME : 4130 Tubular Steel Frame
FUEL SYSTEM : Electronic Fuel Injection
FUEL TYPE : 93
MATERIAL : Chromoly 4130 Steel
MPD : 9000
MPT : 11000
OLWH : 2770mm(109in)/1352mm(53in)/1073mm(42in)
SUSPENSION : Carbon Fiber Double Wishbone; push rod
TIRE : 18 X 6-10 R25B Hoosier
UNIQUE : Adjustable Pedal Box Assembly, Carbon fiber suspension and driveshaft
WEIGHT : 535 lbs
WHEELBASE : 1549mm(61in)





After a successful 2016 season, Mesa Motorsports will return to Formula SAE Michigan to compete for the third time. Our third season of design has seen us refining our 2016 car to be a lighter, cleaner, and more efficient points-earning-machine for the 2017 season. This year's goal is to finish all dynamic events, including finishing the endurance event for the first time. The ultimate area of design focus is improving overall reliability by reducing part count, refining past designs, and improving manufacturing plans and processes.

Special emphasis has been put into simplification and overhaul of the electronics system, which was a weak point of previous vehicles. This is the team's first season with a dedicated electronics team focused on manufacturing a custom wiring harness in-house. The vehicle's aerodynamics have gone through a major redesign to improve functionality, aesthetics, and manufacturability. There have also been major weight-loss efforts in the powertrain, suspension, and ergonomics systems, while continuing to build off of previous designs.



BRAKE : Wilwood GP200 Calipers/ Floating Rotor
BSCD : 67mm/42.5mm/4cyl/599cc
COOLING : Single Side-Mount/Water Cooled
DRIVE : 520 Chain-drive
ELECTRONICS : Custom Harness, Dynojet Ignition/Injection Controllers
ENGINE : 2008 Honda CBR 600RR
FR/RR TRACK : 1270/1219.2 (mm)
FRAME : Tubular Space Frame
FUEL SYSTEM : Internal Fuel Pump/FI
FUEL TYPE : 93 Octane
MATERIAL : 4130/C.F./Al/Mg
MPD : 70HP @ 11,500rpm
MPT : 40lb-ft @10,000rpm
OLWH : 2970/1450/1032 (mm)
SUSPENSION : SLA Pushrod F/R
TIRE : Hoosier 20.5x7x13(in) - R25B
UNIQUE : Integrated differential/rear suspension mount
WEIGHT : 665lb (301kg)
WHEELBASE : 1574.8 (mm)



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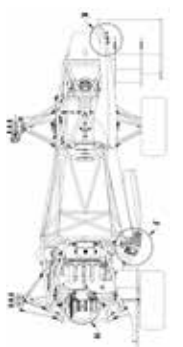
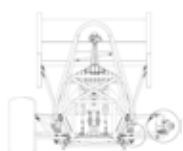




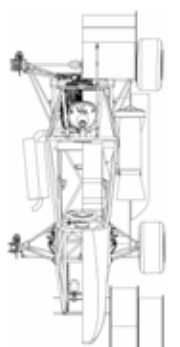
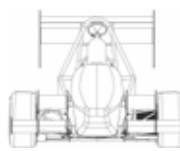
Formula UBC focused on weight reduction when developing the BC-22c. The BC-22c features a chromoly space frame chassis, pull-rod double wishbone suspension with carbon fibre linkages, and an aerodynamic package. The car is powered by a Honda CBR600RR engine with a dry sump system.



RM22 is Rensselaer Motorsport's first car designed around a Honda CBR600RR engine. Car design goals are system cohesion, ease of service, weight reduction, excellence, and reliability. The car features a full diffuser as well as front and rear wings.



BRAKE : AP Racing Calipers
BSCD : 67mm bore, 42.5mm stroke, 4 cylinders, 599cc
COOLING : Single radiator, electric water pump
DRIVE : Salisbury LSD
ELECTRONICS : Haltech Elite 1500, AiM Sport MXL2
ENGINE : Honda CBR600RR
FR/RR TRACK : 48" Front, 47" Rear
FRAME : Chromoly Spaceframe
FUEL SYSTEM : Common Rail EFI
FUEL TYPE : 93 octane
MATERIAL :
MPD : 10500
MPT : 8000
OLWH : 2800mm x 1422mm x 1175mm
SUSPENSION : Pullrod, double a-arm
TIRE : Hoosier 6x18-10 R25B
UNIQUE :
WEIGHT : 600
WHEELBASE : 60.5 inches

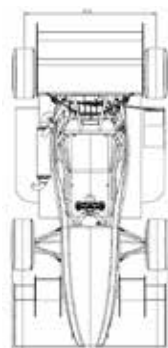


BRAKE : Wilwood GP200, Floating Cast Iron Rotors, Tilton 77, Bias Adjust Knob
BSCD : 67mm, 42.5mm, 4 cylinder, 599cc
COOLING : Setrab Heat Exchanger, Permacool Fan, Custom Ducting
DRIVE : 520 X Ring Chain
ELECTRONICS : PE3 ECU, Aim Evo4 DAQ
ENGINE : Honda CBR600RR
FR/RR TRACK : 1232/1199 48.5/47.5
FRAME : 4130 Chromoly Steel Space Frame
FUEL SYSTEM : Custom fuel injection system controlled by PE3 ECU
FUEL TYPE : 93 Octane
MATERIAL : 4130 Chromoly Steel
MPD : 11200rpm
MPT : 8000rpm
OLWH : 3015/1437/1136 119/57/45
SUSPENSION : Double Wishbone, Pullrod Front, Pushrod Rear
TIRE : Hoosier 18x6-10 LCO
UNIQUE : Custom diff housing, custom steering rack, custom throttle body
WEIGHT : 268 kg / 590 lb
WHEELBASE : 1664 / 65.5





The 2017 Bronco racing vehicle is a continuation of the entirely new platform that was developed in 2016. This year's vehicle will sport a completely refined chassis and suspension system that will lose weight all around to contribute to the overall weight reduction goal set by the team, an anti-roll bar system and the use of 7075 aluminum are amongst the design changes. A similar powertrain package will be used yet again but will feature a custom intake and exhaust camshaft and rapid prototype intake as well as a complete overhaul that includes a custom transmission, all firsts for the team. The aerodynamics will be continued to be developed to keep a high lift to drag ratio in mind with side wings installed to reduce drag. The teams overall goals will be to produce a lightweight, nimble and reliable car to complete all dynamic events for the first time with the new platform.






BRAKE : Brembo Calipers, Floating Rotors
BSCD : 69mm / 42.3mm / 4 Cyl / 636cc
COOLING : Water
DRIVE : Chain Drive LSD, Modified Transmission
ELECTRONICS : PE3 ECU, Arduino Mega 2560
ENGINE : CBR600RR
FR/RR TRACK : 48" FR, 47" RR
FRAME : Bubble Tape
FUEL SYSTEM : Sequential EFI
FUEL TYPE : 100 Octane
MATERIAL : Carbon, Aluminum, Steel
MPD : 84 hp (11,000)
MPT : 45 lb-ft (8,000)
OLWH : L: 115" W: 56" H: 47"
SUSPENSION : Unequal Length A-arms, Pull-rod Actuated, Front and Rear ARB, Ohlins Damper
TIRE : 18.0x6.0-10 Hoosier R25B
UNIQUE : Fully Automatic Shifting System, Side Wings
WEIGHT : 615lb
WHEELBASE : 61"

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Osprey Racing presents the Sixth generation Formula SAE car, SD6. This car was focused on validation and reliability. The car is a non-aero vehicle running a four cylinder engine with 13 inch wheels focused on mechanical grip, and implements a pneumatic shifting system, modified four speed gear train, and data acquisition systems.

We would like to thank our friends, families, sponsors, and University for their continued support and allowing us the opportunity to compete. Without them it wouldn't be possible.

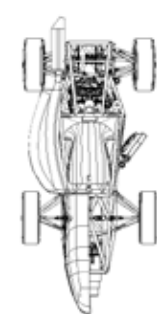
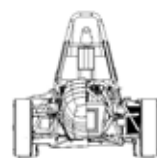


BRAKE : 4340 Rotors; 77 Series Master Cylinders
BSCD : 67mm; 42.5mm; 4; 599cc
COOLING : Single Core Radiator
DRIVE : 520 Chain Drive
ELECTRONICS : MoTeC
ENGINE : Honda CBR600RR
FR/RR TRACK : 48in; 47in
FRAME : 4130 Chromoly Tube
FUEL SYSTEM : Low Pressure Multipoint Port Fuel Injected Return System
FUEL TYPE : 93
MATERIAL :
MPD : 10,500rpm
MPT : 8,500rpm
OLWH : 106in; 55in; 42.5in
SUSPENSION : Push Rod Rear; Pull Rod Front
TIRE : 20.5inx7in13in; R25B
UNIQUE :
WEIGHT : 605lb
WHEELBASE : 62in



The 2017 Blue Devil Motorsports Formula SAE team focused on powetrain advancements by switching to the Yamaha YZF 600 engine. This drove changes with the air intake, ignition management system and cooling. The additional weight of the vehicle drove improvements to the suspension, peddle box and overall vehicle packaging.

The 2017 team would like to thank all the sponsors who have donated product, monetary support or discounts throughout the 2016-2017 season.



BRAKE : 4 wheel disc; Cast iron rotors; Adjustable brake balance
BSCD : 67mm / 42.5mm / 4 Cyl / 599cc
COOLING : Single mounted aluminum radiator with Spal fan
DRIVE : Chain drive with Drexler limited slip differential
ELECTRONICS : MoTeC M800; CDL3 Digital Dash
ENGINE : Yamaha YZF R6
FR/RR TRACK : 44in/43in
FRAME : Steel space frame
FUEL SYSTEM : Yamaha stock fuel rail; DENSO Injectors
FUEL TYPE : 93 Octane
MATERIAL : 4130 chromoly steel tube; 6061 aluminum; Carbon fiber
MPD : 74 hp (11700 RPM)
MPT : 37 Ft.Lb (8300 RPM)
OLWH : 110in/53.7in/52.5in
SUSPENSION : Ohlins Dampers; Unequal length a-arms; pushrod actuation
TIRE : 13in Hoosier R25B
UNIQUE : Adjustable pedal box; flux capacitor
WEIGHT : 600lbs
WHEELBASE : 64in

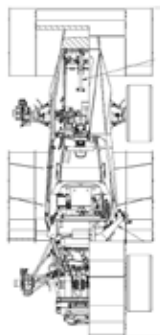
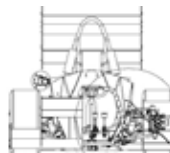




WFR has 3 team goals: Excellence: To develop highly skilled and effective professionals. Endurance: To ensure long-term success of the team. And Enthusiasm: To have fun!

This year we have expanded our monocoque to include the main roll hoop bracing structure, added an ABS, put load cells into our control arms, and implemented a student designed custom engine breathing package.

To ensure a highly innovative car and testing time, we focused our resources this year towards designs that provided the highest overall point-gain at competition.



BRAKE : Floating rotors, Bosch ABS

BSCD : 67/42.5/4/599cc

COOLING : Rear-mounted aluminum radiator

DRIVE : Chain

ELECTRONICS :

ENGINE : Honda CBR600 F4i

FR/RR TRACK : 1050

FRAME : Carbon Fiber Monocoque

FUEL SYSTEM : Fuel injected

FUEL TYPE : 94 Octane

MATERIAL :

MPD : 11500

MPT : 9000

OLWH : 2949/1291/1196

SUSPENSION : Double unequal length wishbone

TIRE : 13" Hoosier R25B

UNIQUE : Vacuum infusion process used for composites

WEIGHT : 275kg (w/ driver)

WHEELBASE : 1050



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Georgia Institute of Technology

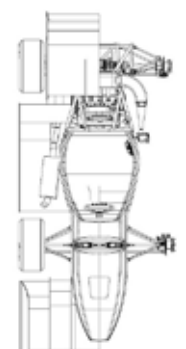
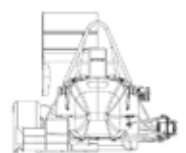
Georgia Tech Motorsports



We celebrate our 30th Anniversary with the introduction of Car 43, the 26th vehicle produced by GT Motorsports throughout our extensive history. We strive to produce consumer-oriented vehicles that are fast, comfortable, reliable, and affordable. GT Motorsports takes the vision of Formula SAE to heart; our cars are 100% student designed, and our team members manufacture over 90% of the components in house. Each new car is built from the ground-up every year; no parts are recycled from previous years.

Car 43 features the first-ever hybrid monocoque design, with a CFRP monocoque front chassis and 4130 steel spaceframe & stressed engine in the rear. Additional emphasis was placed on improved aerodynamics, an overhauled electronics system, and redefined kinematics. With these advancements, Car 43 stakes its claim as the fastest vehicle GT Motorsports has ever produced.

GT Motorsports would like to thank the George W. Woodruff School of Mechanical Engineering and the Student Government Association for their continual support, as well as all of our sponsors, contributors, and vendors featured at gtms.gatech.edu/sponsors.



BRAKE: Student Designed Monobloc Caliper. 4 Piston Front, 2 Piston Rear. Bosch ABS

BSCD: 67mm/42mm/4cyl/599cc

COOLING: Rear-mounted aluminum radiator with thermostatically-controlled fan

DRIVE: 520 Chain Drive with Drexler LSD

ELECTRONICS: Bosch MS6.2 ECU, GEMS LDS4 Dash, Student-Designed PDM, Magic Smoke

ENGINE: 2015 Honda CBR600RR

FR/RR TRACK: 46in / 46in

FRAME: CFRP Monocoque Front / 4130 Steel Rear Subframe

FUEL SYSTEM: EFI, External Fuel Pump

FUEL TYPE:

MATERIAL: Carbon fiber.

MPD: 92hp @ 11500rpm

MPT: 49ft-lbs @ 9000rpm

OLWH: 115in long / 50in wide / 47in high

SUSPENSION: SLA, Pushrod front and rear. Hydraulic ARB

TIRE: Hoosier 6.0/18.0-10 LCO

UNIQUE: Multifunction CFRP Steering Wheel. ABS. DRS. George P Burdell

WEIGHT: 575lbs w/driver

WHEELBASE: 60.5in

44

Univ of Guelph

Gryphon Racing



In amongst the red brick network of banal 1950's construction lies the headquarters of Gryphon Racing. A peeling brown garage door opens to reveal an engineering masterpiece like no other, a unique harmony of metal, carbon, and gasoline. Suspended from arms of the sixth element sits a lattice of steel framework, eloquently joined together in an assiduous travail as if it were machined from a single block. In a motion of utmost tenacity to humble roots, the power plant is affixed longitudinally, coupled with a direct shaft, as if to rebel against the contemporary norm of our chain driven competition. Our custom header architecture trumpets by in a tenor choir, the intake a composition of contoured nylon accented with a touch of cultivated elegance that would incur jealousy to the likes of da Vinci.

The machine is an artisanal effort of vast proportion aroused over the course of a multitude of months in synchronicity of arduous academic engagements. As you lean back in the hand sculpted seat, rest your hands on the alcantara leather wrapped steering wheel and depress the ignition switch to hear a perfect blend of air and fuel ignite, one can only describe it as "exquisite".



BRAKE: Floating Disk, Tokico 4 piston FR, Wilwood single piston RR

BSCD: 67/42.5/4/599cc

COOLING: Side Mounted Radiator

DRIVE: Shaft, LSD

ELECTRONICS: PE3 ECU

ENGINE: GSX-R600

FR/RR TRACK: 1300mm/1250mm

FRAME: Tubular Space Frame, Stressed Engine

FUEL SYSTEM: Injection

FUEL TYPE: 94

MATERIAL: 1026 Steel

MPD: 85 @ 14500rpm

MPT: 65 @ 13000rpm

OLWH: 1175/1475/2600mm

SUSPENSION: Dual Unequal Length A-Arm, Pull Rod

TIRE: 20.5x7.0-13, R25B

UNIQUE: Longitudinal Engine, Shaft Drive

WEIGHT: 620lbs

WHEELBASE: 1550mm



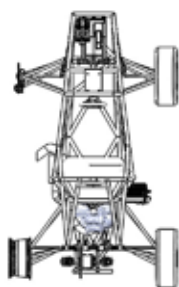
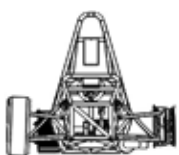
United States



Canada



For the first time in history, St Cloud State University joins the FSAE North American circuit as a student managed organization under the name Husky Formula Racing. Our focus for our first competition is simple, fundamental and reliable designs. We took knowledge from SCSU's past senior design teams as well as regional competitors to establish a base platform to build upon. The key feature for our initial platform is a Suzuki powered V-twin with plenty of mid range and low end torque.



BRAKE : Full floating rotors with Brembo calipers
BSCD : 81.0/62.6[mm], 2, 649cc
COOLING : liquid cooled, 305x203[mm] single core radiator.
DRIVE : Chain drive with torsen LSD
ELECTRONICS : DIY autotune MS3v3.57
ENGINE : Suzuki SV650S
FR/RR TRACK : 1321/1321[mm] 52/52[in]
FRAME : Steel space frame
FUEL SYSTEM : Electronic port injection
FUEL TYPE : 93 octane
MATERIAL : 1020 steel, aluminum, fiberglass
MPD : 8750
MPT : 7250
OLWH : 2845/1524/1294[mm] 112/60/51[in]
SUSPENSION : non parallel, unequal length, push rod
TIRE : 20.5x13x7 R25B Hoosier tyres
UNIQUE : v-twin engine
WEIGHT : 600 [lbs]
WHEELBASE : 1651/65[mm/in]



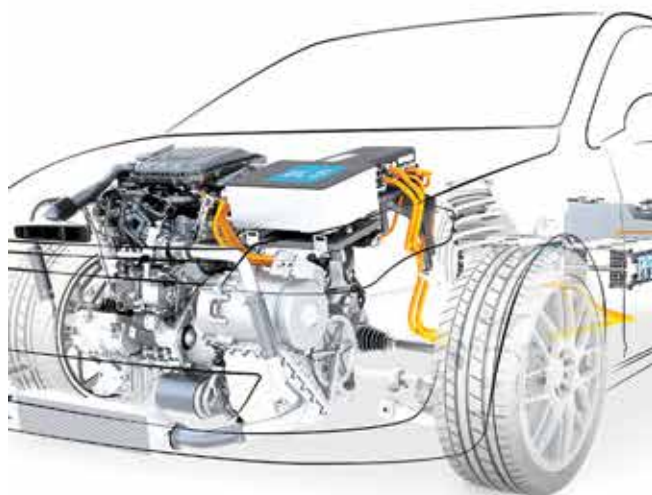
United States



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The 2017 Navy Racing team developed a car focused on both speed and driveability. Everything about the car is designed to make the driver confident, no matter their skill level. In order to achieve our driveability goal, our car uses a continuously variable transmission, automatic drag reduction system, traction control, and balanced handling characteristics. To ensure the driver always has more performance on tap, our car utilizes a Yamaha 80FI powerplant, aggressive aerodynamics, and low weight thanks to the newly designed hybrid carbon monocoque and steel rear subframe chassis. We believe our design philosophy allows the driver to focus purely on the racing line, braking points, and turning points.

Our team is comprised of senior engineers spanning 5 different disciplines. After graduation, we will commission as Officers into the US Navy and Marine Corps.



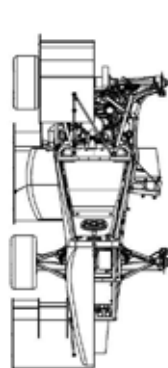
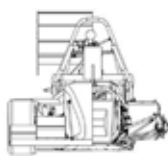
BRAKE : Tilton 78 Master Cylinders, AP Racing 2 piston front, 1 piston rear calipers
BSCD : 77 mm, 53.6 mm, 499 cc
COOLING : Double pass radiator
DRIVE : Continuously variable transmission, Drexler differential
ELECTRONICS : Performance Electronics 3 ECU
ENGINE : Yamaha Genesis 80FI
FR/RR TRACK : 48/46 in
FRAME : Front carbon fiber monocoque, rear 4130 steel frame
FUEL SYSTEM : Single rail EFI
FUEL TYPE : 93
MATERIAL : Prepreg carbon fiber, 4130 steel
MPD : 75 hp @ 9500 rpm
MPT : 42 ft-lbf @ 9200 rpm
OLWH : 129.9 in, 53.8 in, 47.7 in
SUSPENSION : Double unequal length A-arms, pushrod actuated springs
TIRE : 10x6.0-18 R25B Hoosier
UNIQUE : Continuously variable transmission, automatic drag reduction system
WEIGHT : 565 lb
WHEELBASE : 65 in



NUS FSAE is proud to present our 2017 entry to Formula SAE Michigan. Spurred on by our success in 2015 and 2016, our best seasons to date, we are raring to get back on the track for the 2017 competition with our latest racing machine, the R-17.

Compact packaging and aggressive corner entry were key goals when designing the R-17. Extensive simulation of the intake and exhaust systems, combined with progressive engine tuning has given us a flatter torque curve and increased horsepower from the CBR600RR engine compared to previous years. Topology optimisation techniques were used to improved material distribution within various components. Driver adjustable real-time tuning parameters have been included for the first time, including anti-roll bar stiffness and brake bias. The R-17 has been put through its paces over 4 months of track testing to ensure reliable and predictable performance.

NUS FSAE is sincerely grateful to the university, sponsors, family, friends and all supporters, without whom the project could not have been seen to fruition.



BRAKE : ISR Calipers, Floating Rotors
BSCD : 67mm/42.5mm/4 cyl/ 599cc
COOLING : Single-pass with Electric Water Pump
DRIVE : Chain
ELECTRONICS : MoTec M150 ECU
ENGINE : Honda CBR600RR
FR/RR TRACK : 1200/1160
FRAME : 4130 Steel Spaceframe with CFRP-PVC Foam Shear Panels
FUEL SYSTEM : Custom Aluminium Fuel Tank, EFI
FUEL TYPE : 93 Octane
MATERIAL : CFRP, Steel, Aluminium,
MPD : 71 Hp @ 11700
MPT : 49 Nm @ 9100
OLWH : 2922/1420/1190 [mm]
SUSPENSION : Front Pull, Rear Push SLA
TIRE : 18.0x6.0-10 Hoosier LCO
UNIQUE : Rapid Prototype Intake, Dry Sump engine
WEIGHT : 614
WHEELBASE : 1535mm





UConn Formula SAE is proud to present its 2017 entry to the Formula SAE Michigan competition. It is the ninth race car produced by the team and was constructed with a philosophy revolving around simplicity in design, subtle system optimization, and high quality workmanship. The team focuses on optimizing designs to leverage casting and other high volume production methods and simplifying systems through consolidation of components.

The vehicle is a tubular alloy steel space frame with infused carbon fiber stressed panels for increased torsional rigidity and weight reduction through tubing removal. It runs on 10 inch wheels and employs conventional twin, unequal length wishbone suspension. Magnesium castings are used for the uprights and steering rack. It is powered by stock Yamaha YZF-R6 motor. Novel changes for the 2017 model include pneumatic shifting, a custom Drexler SAE differential and a carbon infused SLS nylon 3D printed intake.



BRAKE : Tilton 77 Series MC, balance bar, Wilwood PS1 calipers

BSCD : 67 mm / 42.5 mm / 4 Cylinder / 599.4 cc

COOLING : Side-mounted ducted single core radiator with fan

DRIVE : Chain Driven Drexler FSAE Differential

ELECTRONICS : Syvecs S8 ECU with data logging, AIM Evo3

ENGINE : Yamaha YZF-R6

FR/RR TRACK : 1219 mm/48 in; 1168 mm/46 in

FRAME : 4130 Chromoly Spaceframe with CFRP stressed panels

FUEL SYSTEM : Sequential Port Injection

FUEL TYPE : 93 Octane

MATERIAL : 4130 Chromoly Steel, Carbon Kevlar, Carbon Infused SLS Nylon

MPD : 11,127.65

MPT : 10,499.23

OLWH : 2768 mm/109 in, 1435 mm/56.5 in, 1163 mm/45.8 in

SUSPENSION : Double unequal-length non-parallel a-arms, F/R pullrods, adj. anti-roll bars

TIRE : 18x6.0-10 Hoosier LCO compound

UNIQUE : Cast Magnesium Uprights, Custom 3D Printed Carbon infused SLS Nylon intake

WEIGHT : 582 lbs / 41.6 Stone

WHEELBASE : 1549 mm / 61 in



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Illini Motorsports' 2017 competition entry has been designed using points analysis coupled with lap simulation, along with a renewed focus on reliability and weight consciousness. Key design changes include a new front wing and diffuser design, the implementation of anti-lock brakes, and updates to our custom electronics package.

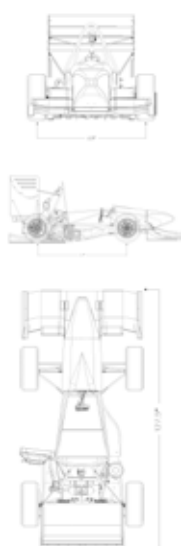
We would like to thank our friends, families, and sponsors for their continued support.



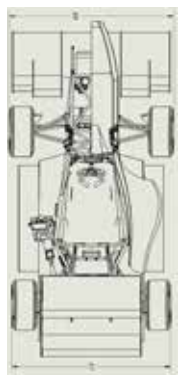
Rutgers Formula Racing is proud to introduce the RFR17. The team strived for increased overall handling and drivability. Aerodynamic and suspension systems worked together to enhance vehicle balance. A greater focus on weight distribution and ergonomics increased driver control. ECU and DAQ upgrades significantly improved data logging and engine calibration flexibility. The system interoperability combined with an integrated display further enhanced simplicity for both the driver and engineer.

These advancements were made possible by enhancements to organization and manufacturing. Mentoring the team's early engineers increased productivity by using the full potential of all members. New partnerships and advancements in mold manufacturing opened the door to more complex composite components.

We would like to thank all of our partners for their constant support and generosity. We look forward to representing them with a top performance.



BRAKE : AP Racing 4-piston front, 2-piston rear
BSCD : 67mm bore / 42.5mm stroke / 599cc
COOLING : Vertically mounted single core double pass radiator, 625 cfm fan
DRIVE : RWD
ELECTRONICS : Motec M400 and student designed data acquisition system
ENGINE : Yamaha R6
FR/RR TRACK : 49in front, 49in rear
FRAME : 4130 Steel Space Frame
FUEL SYSTEM : Stock Yamaha
FUEL TYPE : 93 Octane
MATERIAL : 4130 Steel
MPD : 10500 rpm
MPT : 9000 rpm
OLWH : L: 3238mm / W: 1458mm / H: 1196mm
SUSPENSION : Double unequal length A-arms, Ohlins TTX25 dampers
TIRE : 20.5x7x13 Hoosier R25B
UNIQUE : Custom airfoils, custom CFRP steering wheel, custom PDM
WEIGHT : 610
WHEELBASE : 64in



BRAKE : Drilled, scalloped, floating rotors; Wilwood GP200 Calipers
BSCD : 95mm/63.4mm/1/449cc
COOLING : Water-cooled w/ integrated pump; Single radiator in left sidepod
DRIVE : 520 Chain; Custom Sprocket; Drexler Salisbury Differential
ELECTRONICS : MoTeC M150 ECU; C185 Datalogger
ENGINE : Yamaha YFZ450R
FR/RR TRACK : 50 in (1270 mm) / 48 in (1219.2 mm)
FRAME : 4130 Spaceframe; Bonded CFRP Floors
FUEL SYSTEM : Electronic Port Fuel Injection; Bosch EV-14 Injector
FUEL TYPE : 93 Octane
MATERIAL : Varied
MPD : 44.6 HP @ 8500RPM
MPT : 29.6 ft-lb @ 7000RPM
OLWH : 119.9 in (3045.46 mm), 59 in (1498.6 mm), 47 in (1193.8 mm)
SUSPENSION : Dual Unequal Length A-Arm, Push-Rod Front/Pull-Rod Rear
TIRE : 18" x 6" - 10" LCO Hoosier
UNIQUE : Biplane, Adjustable Element Rear Wing, CFRP Brake Ducts
WEIGHT : 550 lbs (249.48kg)
WHEELBASE : 62in (1574.8mm)

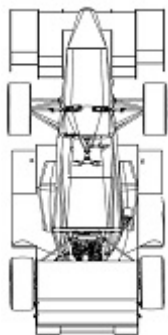
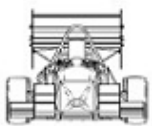




Carleton University's Ravens Racing is proud to debut the RR17 at Formula SAE Michigan.

Design highlights for the 2017 vehicle include: single cylinder EFI engine for performance and reliability; customizable fuel and ignition system; full carbon fiber suspension; 3D printed fuel tank; and lightweight aerodynamic package.

Carleton's design goals emphasize a balance between performance and cost-effective manufacturing. To achieve the design goals, a closed loop design process is used to create an environment of continuous improvement. Design criteria are based on the lessons learned in testing and past competitions. A wheels-in design approach is supported by Creo Parametric solid modelling, Creo Simulate FEA, and Creo Mechanism dynamic simulation. Vehicle testing is used to verify criteria compliance and provide feedback for future design work, thus completing the design cycle.



BRAKE : Cast iron floating rotor / AP master cylinders / Wilwood calipers

BSCD : 95.0mm / 63.4mm / 1 cylinder / 450cc

COOLING : Liquid cooled

DRIVE : 5 speed chain drive

ELECTRONICS : MoTeC M48 ECU and SPDii Spark Plasma Ignition

ENGINE : KTM 450 SX-F

FR/RR TRACK : 1220mm / 1168mm

FRAME : Steel space frame

FUEL SYSTEM : Fuel injected

FUEL TYPE : 93 octane

MATERIAL : 1020 steel

MPD : 9500

MPT : 8000

OLWH : 2920mm long, 1428mm wide, 1180mm high

SUSPENSION : Double A-Arm, pushrod actuated spring and damper, u-bar ARB

TIRE : Hoosier 18.0x6.0-10 LCO

UNIQUE : Super reclined driver position

WEIGHT : 510lb with 150lb driver

WHEELBASE : 1549mm



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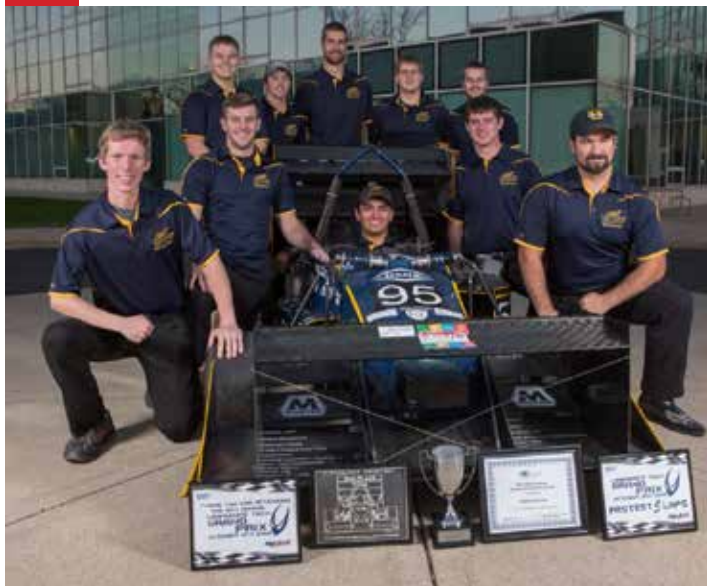
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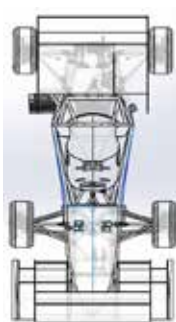
Learning from the previous year, this year's car will see advancements in suspension design, an increase in build quality, universal weight reductions, and a modified frame to better accommodate the driver and to allow for a 1 piece drive line assembly. We expect this seasons car to greatly out perform its predecessors.



This year's car UTR-23, was built around reliability and simplicity, while still taking on some new challenges. Such as a new engine with mechanical paddle shifters, ECU with data logging capabilities, improved aerodynamic package, and improved mechanical driver adjustable anti-roll blade. This year the car features a KTM 450 single cylinder, a rigid tubular chassis, and Ohlins shocks backed up with extensive durability testing. Serviceability and weight reduction were considered with every component designed. With our secret weapon: Blood, Sweat, and Tears.



BRAKE : 4 wheel disk, floating rotor
BSCD : 99mm/73.6mm/1/567cc
COOLING : Water cooled
DRIVE : CVT
ELECTRONICS : Haltech ECU
ENGINE : Prostar 570
FR/RR TRACK : 50"/50"
FRAME : Tubular steel
FUEL SYSTEM : Port injection
FUEL TYPE : 93 Octane
MATERIAL : Steel
MPD : 7000
MPT : 5500
OLWH : 108" x 57" x 48"
SUSPENSION : Double wishbone pullrod
TIRE : Hoosier 18-6.0-10 R25B
UNIQUE : Carbon filled nylon 11 intake manifold
WEIGHT : 582 lb
WHEELBASE : 64"



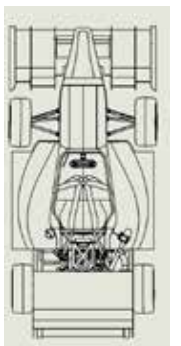
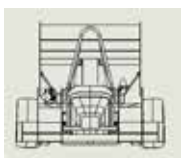
BRAKE : Brembo Billet Calipers (F), Wilwood PS1 Calipers (R)
BSCD : 95mm/63.4mm/1/450
COOLING : Right side mounted double pass heat exchanger
DRIVE : Cahin
ELECTRONICS : Motec M150
ENGINE : KTM 450 SX-F
FR/RR TRACK : 1574.8mm/1257.3mm
FRAME : 4130 Steel Spaceframe
FUEL SYSTEM : Port injection
FUEL TYPE : 93 Octane
MATERIAL : 4130 Steel
MPD : 9,000
MPT : 8,000
OLWH : 2933.7mm, 1435.1mm, 1215.15mm
SUSPENSION : Non-parallel Unequal Length Anti Dive (F), Anti Squat (R)
TIRE : 7.0/16.0-10.0 Avon
UNIQUE : Mechanical Paddle Shifter, Driver Adjustable Anti-roll Bar
WEIGHT : 550
WHEELBASE : 1574.8mm





Jayhawk Motorsports is a student organization within the School of Engineering at the University of Kansas. For over 20 years, students have designed and built award-winning racing vehicles. Each year, cross-disciplinary teams build vehicles to take to international competitions against other universities. The vehicles are judged on a wide variety of criteria such as design, performance and marketing. Students gain experience in project management, design, manufacturing, testing and perhaps most importantly, teamwork. Jayhawk Motorsports manufactured its first carbon fiber chassis in 1998, and has since become the longest running FSAE team to build a carbon fiber chassis in-house. We also own and operate an engine dynamometer and chassis dynamometer for powertrain development.

Since 2012, Jayhawk Motorsports has developed two vehicles a year, one Electric and one Combustion, being one of the pioneering teams in the United States in the growing Electric field. We are driven by the passion of engineering and built on the 20 plus years of teams before us. Success developed by one racing family, Jayhawk Motorsports.



BRAKE : Self developed Monoblock dual piston calipers

BSCD : 67mm/42.5mm/4 Cylinders/599cc

COOLING : Side mounted single pass radiator with Shroud mounted electrical fan

DRIVE : 520 Chain Drive

ELECTRONICS : Life Racing F88 ECU/DAQ, Electronic Throttle control with Arduino integration

ENGINE : Modified Honda CBR600RR

FR/RR TRACK : 1219mm/1168mm

FRAME : CFRP Monocoque with fully stressed engine

FUEL SYSTEM : Port fuel injected, with student designed fuel tank

FUEL TYPE : E-85

MATERIAL : CFRP with honeycomb core structure

MPD : 12000

MPT : 8500

OLWH : 2936mm/1451mm/1200mm

SUSPENSION : Unequal length dual A-arms with Push-rod system

TIRE : 20 x7.0 -13in Continental C17 with custom carbon fiber rims

UNIQUE : Fully Stressed engine with CFRP subframe and IA integrated Nosecone

WEIGHT : 575lb

WHEELBASE : 1600mm



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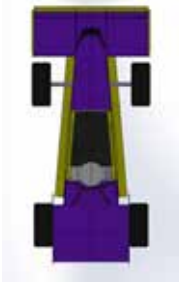
The TTU Motorsports 2017 prototype car is entirely built, machined, fabricated, and powder coated in house. The 2017 chassis is a steel space frame constructed out of 1020 DOM steel. The 2017 car is equipped with a 626cc Briggs and Stratton Vanguard V-Twin that is a heavily modified racing version of the industrial engine platform stroked to 650cc. The suspension has been optimized by a combination of several software tools to ensure the vehicle maintains maximum traction through corners. TTU Motorsports continues to use a short over long arm configuration in the front with a live solid axle in the rear. The aerodynamics team has been running CFD simulations to estimate the aerodynamic performance of the vehicle. The aerodynamics package consists of a 3-element rear wing, floorboard, front wings, and splitter/skirt.



With the success of our F2016 car, we aim to iterate to fix the problems we found through our continued testing of last year's car. Improvements in suspension geometries, intake air cooling, flow to our aerodynamic elements and weight savings throughout, will take USF Racing's F2017 to even higher success this year.

Our turbocharged Suzuki LT-R 450 power plant has proven itself to be reliable. With the addition of a charge air cooler and refinements to our engine mapping, we aim to increase maximum output and have a more stable powertrain. Revisions to our braking system have reduced unsprung weight with lighter rotors and calipers while maintaining maximum braking force. Repositioning and modifications to our aero elements increased flow to our wings providing a more balanced distribution of downforce. Steering geometry refinements led to a decreased turning radius and a change in our front rockers allow for a better motion ratio.

Come visit Team USF Racing to find out more about our team and our design decisions for this year. Thank you to our sponsors and supporters that allow us to participate in the Formula SAE competition every year.
Go Bulls!



BRAKE : 2 Piston Wilwood Brake Calipers
BSCD : 650cc, 2 cylinder
COOLING : air cooled
DRIVE : CVT
ELECTRONICS : electric start only, no other major systems
ENGINE : Briggs
FR/RR TRACK : Front = 48", Rear = 46"
FRAME : Steel space frame
FUEL SYSTEM : Carburetor
FUEL TYPE : E85
MATERIAL : 1020 Steel, 6061 Aluminum
MPD : 7800
MPT : 5800
OLWH : 115.5, 56, 46 in
SUSPENSION : Front: unequal length double A-Arm
TIRE : 20x8 -13s M28 American Racer
UNIQUE : Solid Rear Axle
WEIGHT : 600 lbs
WHEELBASE : 68 in



BRAKE : Wilwood PS-1 front and rear, Tilton 78 series master cylinder
BSCD : 450cc single
COOLING : Single pass, side mounted aluminum
DRIVE : Chain drive, helical LSD
ELECTRONICS : AIM data and DTA ECU
ENGINE : LT-R 450 turbocharged
FR/RR TRACK : 1270mm 50in
FRAME : Tubular space frame
FUEL SYSTEM : Port injection; return style
FUEL TYPE : E85
MATERIAL : 4130 Chromoly
MPD : 10000
MPT : 7500
OLWH :
SUSPENSION : Pullrod/Pushrod, double A-arm
TIRE : 6x10 Hoosier LCO
UNIQUE :
WEIGHT : 500lb
WHEELBASE : 1527mm/50in

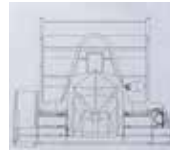




University of Victoria Formula Motorsport is proud to demonstrate the progress and innovation in their 2017 vehicle. With the early running car deadline, the car will be in peak condition for competition. Rigorous vehicle testing and increased adjustability of vehicle dynamics, powertrain, and aerodynamics will push the team to their best finish since their 2001 founding.

Vehicle simulation and metric evaluation identified a Honda CBR600F4i power plant and high downforce aerodynamic package as a highly competitive combination. This pairing allows the vehicle to maintain speed through corners and accelerate hard in the straights.

UVic Formula Motorsport would like to thank all sponsors for their support and contributions to the team and to the event as well as the faculty and staff associated with the team.



BRAKE : Floating cast iron rotors, Brembo p34 calipers, Tilton 77 master cylinder
BSCD : 67mm/42.6mm/4/599cc
COOLING : Custom radiator core with front and rear ducting
DRIVE : Chain drive, custom Torsion T1 differential, 4:1 final drive ratio
ELECTRONICS : LifeRacing F88RX ECM, custom PDU, custom dash and forward sensor hub
ENGINE : Honda CBR600F4i
FR/RR TRACK : 1270mm/1245mm
FRAME : 4130 chromoly steel tube space frame, TIG welded
FUEL SYSTEM : Custom fuel tank, HydraMat fuel pickup
FUEL TYPE : 100 octane
MATERIAL : Carbon fiber body
MPD : 70.8kW at 12,500RPM
MPT : 73.2Nm at 8,250RPM
OLWH : 2972mm/1473mm/1181mm
SUSPENSION : Double unequal length a-arm, pull rod actuated spring and damper
TIRE : 20.5x7-13" R25B
UNIQUE : Custom differential housing, 3D printed, multi-function steering wheel
WEIGHT : 292.5kg/645lb
WHEELBASE : 1574mm



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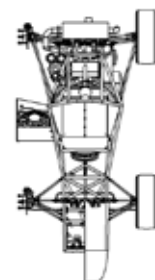
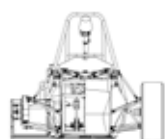
CLASS PAYS





FSS Racing returns for his second-year car F2017. Improvement were made on the previous build, like the shorter cockpit for ergonomic improvement and considerable mass reduction in powertrain and drivetrain system. This second iteration includes the result of the knowledge earned by the team members in past year competition and summer testing.

In short, FSS Racing's design goals for the F2017 are an easy to drive and a reliable improved Formula SAE car.

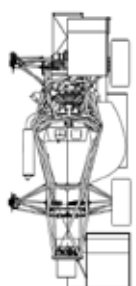


BRAKE : FR : Wilwood GP6200 RR : AP Racing CP4226
BSCD : 77 mm / 53.6 mm / 2 cyl. / 499cc
COOLING : Water cooled / one radiator
DRIVE : BRP CVT with custom reducer
ELECTRONICS : AEM Infinity Serie 5 ECU
ENGINE : Yamaha Genesis 80Fi
FR/RR TRACK : 1150 mm / 1150 mm
FRAME : Steel space frame
FUEL SYSTEM : Bosch fuel pump / Yamaha injectors
FUEL TYPE : 93 octane
MATERIAL : 1020 steel, aluminum, magnesium, heat shrink cloth , carbon fiber
MPD : 62 hp @ 11000 RPM
MPT : 30 lb-ft @ 10000 RPM
OLWH : 2560 mm / 1345 mm / 1105 mm
SUSPENSION : Double A-arm / Push rods / Öhlins shocks
TIRE : Hoosier 20.5x7.0-13 / R25B
UNIQUE : Self-designed exhaust
WEIGHT : 590 lb
WHEELBASE : 1550 mm



The 2017 entry from Purdue University is a steel space frame, four cylinder car utilizing SLA suspension geometry and an aerodynamics package. The target weight is under 450 lbs without a driver. The target vehicle performance goals are a lateral steady state acceleration of 1.35 g at 25 mph, a 250 foot acceleration time of 4.1 sec, and an average fuel economy of 12.5 mpg. In general, Creo Parametric was used for CAD design and assembly, ANSYS was used for finite element analysis (FEA), Ricardo-WAVE was used for engine analysis, and STAR-CCM+ was used for computational fluid dynamics (CFD).

This year's car was built on the philosophy of reliability and testing time. Only optimization was performed on components with few to no major design changes in order to ensure early completion of manufacturing.

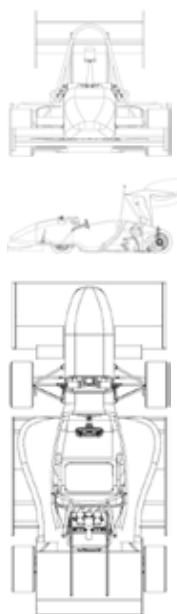


BRAKE : Custom Rotors, Tilton MC's, and 2-piston Wilwood Calipers
BSCD : 67.0 mm/42.5 mm/4/599 cc
COOLING : Single Mounted 1 core Aluminum Radiator with mounted fan
DRIVE : Chain Drive
ELECTRONICS : MoTeC ECU and PDM
ENGINE : Yamaha R6
FR/RR TRACK : 47 in/46 in
FRAME : 4130-N CroMoly Steel
FUEL SYSTEM : Fuel Injection
FUEL TYPE : 93 Octane Gasoline
MATERIAL : Steel, Aluminum, Carbon Fiber
MPD : 10000
MPT : 8000
OLWH : 117.5" x 55.5" x 46.25"
SUSPENSION : Center Locking Hubs with Ohlins Shocks
TIRE : Hoosier R25B 20.5x7x13
UNIQUE : Dry sump oil system and Advanced telemetry and electronics package
WEIGHT : 619 lbs
WHEELBASE : 61 inches





The Formula Buckeyes are proud to present the FB17! The FB17 was designed with performance, reliability, and serviceability in mind. The dual cell carbon fiber monocoque can be split in less than eight minutes and joined in 22. The suspension system utilizes 10" Avon tires mounted on custom 3-piece CFRP wheels to maximize performance. Power comes from an all-new Honda CBR600RR coupled to a Drexler LSD. Custom rear brake calipers have been implemented to improve system stiffness and unlock tuning potential. The aerodynamics package wraps everything up with an aesthetically pleasing, yet highly functional design. The Formula Buckeyes would like to thank all of our sponsors for their continued support and wish all other teams luck in competition this year!



BRAKE : Floating Rotor, Custom Rear Calipers
BSCD : 67mm/42.5mm/4cyl/599cc
COOLING : Sidepod Mounted Single Pass Aluminum Radiator, Adjustable 500 CFM Max Fan
DRIVE : 520 x-link Chain
ELECTRONICS : MoTeC c185 Dash
ENGINE : Honda CBR600RR
FR/RR TRACK : 1168mm/1143mm
FRAME : Dual Cell Monocoque
FUEL SYSTEM : EFI
FUEL TYPE : E85
MATERIAL : CFRP, Rohacell and Aluminum Honeycomb
MPD : 12000
MPT : 9000
OLWH : 2908mm/1367mm/1230mm
SUSPENSION : Unequal Length Double Wishbone, Push Rod Actuated
TIRE : Avon 16x7-10 A92
UNIQUE : 3-piece CFRP Wheels, Electro-pneumatic Clutch, Dry Sump Oil System
WEIGHT : 570 lbs
WHEELBASE : 1600 mm



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61 Northwestern Univ Northwestern Formula Racing



This year's car, NFR17 is an iteration off of last year's car NFR16. After successful implementation of an aerodynamics package, the team is implementing a more aggressive package for NFR17. Overall, the team has designed for a reduction in weight and refinements in packaging.



BRAKE : Wilwood GP200
BSCD : 67/67/2/471
COOLING : Side mounted radiator
DRIVE : Chain, Drexler LSD
ELECTRONICS : MoTeC M400
ENGINE : CBR500
FR/RR TRACK : 46/46
FRAME : Space Frame
FUEL SYSTEM : Deatschwerks Pump
FUEL TYPE : 93
MATERIAL : 4130 Steel
MPD : 53 (10,000)
MPT :
OLWH : 115,53,47
SUSPENSION : Unequal Double Wishbone, Ohlins Shocks
TIRE : 18x6x10 LC0
UNIQUE : 2 Cylinder Square Engine
WEIGHT : 580
WHEELBASE : 60

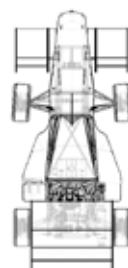
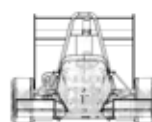


62 Cooper Union Cooper Motorsports



"The Cooper Motorsports' 2017 Formula SAE entry represents continuous design improvements from previous entries, all of which reflect the automotive industry's best practices. This year's team focused on utilizing the strengths while improving upon weaknesses of previous vehicles. To do so, the team defined three major design goals — drivability, reliability, and systems integration — which are reflected in each individual subsystem. As a team based in Manhattan, finding adequate practicing space for our drivers can be difficult; therefore the team focused on implementing systems to improve the vehicle's drivability, including electronic throttle control, an aerodynamic package, custom camshafts and a automatic clutch.

We would like to give special thanks to Cooper Union, our faculty advisors, and our sponsors."



BRAKE : ISR calipers, Tilton MC, custom rotors
BSCD : 42.5/67.5/4/599cc
COOLING : Single Side Mounted Radiator, EWP
DRIVE : Chain Drive, Drexler Differential
ELECTRONICS : PE3 ECU, AIMS DAQ
ENGINE : CBR600RR
FR/RR TRACK : 1244mm (49in), 1219mm (48in)
FRAME : Chromoly Space Frame
FUEL SYSTEM : Returnless, low pressure, port injected
FUEL TYPE : 93
MATERIAL :
MPD : 10500
MPT : 8000
OLWH : 108" Long. 56" Wide. 44.5" Tall.
SUSPENSION : Double Unequal Length A-Arm, Pull Rod Rear, Push Rod Front
TIRE : Hoosier 18.0x7.5-10
UNIQUE : ETC
WEIGHT : 590
WHEELBASE : 1537mm (60.5in)

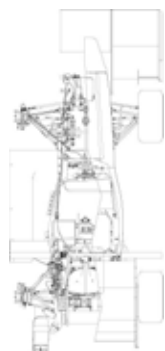
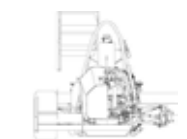




McGill Univ McGill Racing Team



The McGill Racing Team has always focused on track performance and team development through technical innovation. After a successful 2016 competition season, we set our sights even higher for 2017 and are excited to compete in North America and at FSG with a large group of new and returning members. We have maintained our focus on a lightweight chassis and continued to use a legacy powertrain, but have increased our focus on mid region downforce, with significant aerodynamic changes made to aid in track performance as well as engine cooling. Each year we strive to iterate on previous ideas and push the limits of what we can do as a team. We're excited to see ya'll on track, vroom vroom!



BRAKE : Front 4-piston
BSCD : 97mm/60.8mm/1 cylinder/449cc
COOLING : Aft mounted 25mm core aluminum radiators, 200CFM box fans
DRIVE : 5-speed sequential
ELECTRONICS : Traction and Launch Control, Auto upshift, Motec ECU
ENGINE : BRP-Rotax GmbH, Type 449
FR/RR TRACK : 1118mm/1118mm
FRAME : CFRP monocoque chassis w/ integral joint layup, tubular steel roll bars
FUEL SYSTEM : Port injection, Manifold Pressure Regulated, TPS/MAP/IAT/ECT/EGT/AFR
FUEL TYPE : E85
MATERIAL : Twill Weave/Unidirectional Tape, Aluminum/ Nomex/Foam core
MPD : 9000
MPT : 8000
OLWH : 2917mm/1328mm/1181mm
SUSPENSION : Double unequal A-Arm F/R, Pullrod F, Pushrod R, Coilover F/R, ARB F/R
TIRE : 18x6-10 Hoosier LCO F/R
UNIQUE : Complete aero package with mid-region diffuser
WEIGHT : 510lb
WHEELBASE : 1559.4mm



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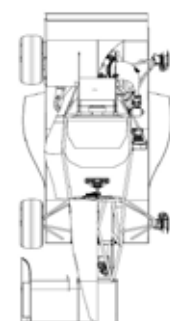
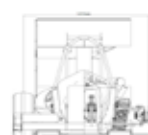
Being a first-year team, our team has engineered the base Formula SAE car with a few design choices that show us apart from the rest of the teams. Using 4130 Chromoly steel for the chassis with a turbocharged Yamaha Raptor 700R engine, coupled with the perfectly designed suspension and drivetrain systems, the Capital College Racing Team is destined for success.



BRAKE : Floating Cast Iron Rotors, Wilwood Calipers and Master Cylinders
BSCD : 102mm/84mm/1/686cc
COOLING : Mishimoto Radiator, Liquid Cooled
DRIVE : Chain Drive
ELECTRONICS : MicroSquirt ECU
ENGINE : 2006 Yamaha Raptor 700R
FR/RR TRACK : 1150, 1150 mm
FRAME : Tubular 4130 Chromoly Steel
FUEL SYSTEM : Electric Inline Pump with 1/1 Regulator and Return
FUEL TYPE : E85
MATERIAL : Carbon Fiber, Aluminum, Steel
MPD : 9000
MPT : 5500
OLWH :
SUSPENSION : Unequal length pushrod suspension
TIRE : 13" R25B
UNIQUE : Turbocharged Yamaha Raptor 700R Engine
WEIGHT : 674.7
WHEELBASE : 1550 mm



The Zips Racing team has produced its 26th vehicle since 1990, the ZR17. The design of the ZR17 revolves around our main philosophy of developing a vehicle that is simple yet lightweight and reliable. Using a very unique and tight weave between design integration and advanced manufacturing processes we have produced a vehicle far more superior to any in the past.



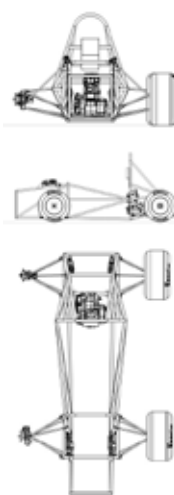
BRAKE : Gray Cast Iron Floating Discs, ISR Brake Calipers
BSCD : 95mm/63.4mm/single/449cc
COOLING : Dual Side Mounted Single Pass Radiators With Controlled Fan
DRIVE : Chain-Drive, Drexler Formula Student Differential
ELECTRONICS : Motec M150 ECU, ACL, VIM, PDM
ENGINE : Yamaha WR450F
FR/RR TRACK : 1219mm/1219mm
FRAME : Tubular Space Frame with Bonded CFRP-Honeycomb Composite Panels
FUEL SYSTEM : Student Designed Fuel Pump Control with Sequential Staged Injection
FUEL TYPE : E85
MATERIAL : 4130, CFRP, Ti, Al, Plastics
MPD : 10,500 rpm
MPT : 7,500 rpm
OLWH : 2918mm, 1422mm, 1105mm
SUSPENSION : Double Unequal Length A-Arms, Pullrod Actuated Coilovers
TIRE : Hoosier 6.0/18.0-10 LCO
UNIQUE : Custom-Student Design Fuel System
WEIGHT : 228kg
WHEELBASE : 1530mm





After a difficult 2015 Michigan competition, Dalhousie FSAE decided to take a step back and rethink some major design choices. We chose to spend the 2016 season researching and planning a car around a single-cylinder Honda CRF450 engine. Thanks to countless hours of hard work from a dedicated team, the result is a simple, lightweight, and agile car that's designed with Formula SAE's tight autocross courses in mind. Also, our car's nose doesn't look like a canoe.

We'd like to thank our sponsors and faculty for making this team possible with their continual support.



BRAKE : Dual Front / Single Rear; 4-piston ISR calipers
BSCD : B: 96 mm / S: 62 mm / C: 1 / D: 450 cc
COOLING : Water
DRIVE : Chain Drive / Drexler LSD
ELECTRONICS : Motec M400
ENGINE : Honda CRF450X
FR/RR TRACK : F: 1300 mm / R: 1250 mm
FRAME : 4130 Steel Space Frame
FUEL SYSTEM : Fuel Injected
FUEL TYPE : 93 Octane
MATERIAL : Metal
MPD : 7500 RPM
MPT : 6000 RPM
OLWH : L: 2660 mm / W: 1490 mm / H: 1000 mm
SUSPENSION : Pushrod SLA
TIRE : 18.0 x 7.5 x 10.0 Hoosier R25B
UNIQUE : Electronic Shifting
WEIGHT : 230 kg
WHEELBASE : 1530 mm



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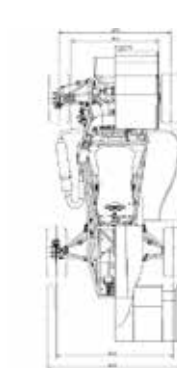
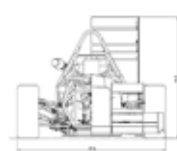
RIT Racing returns to Formula SAE Michigan in 2017 celebrating its 25th anniversary year. F25 is a product of enhancements learned from F24, as well as extensive on-vehicle testing to validate and complete the engineering design process. New features this year include a full LCD Dashboard with driver adjustable settings, implementation of a Bosch MS6 ECU, electronic throttle control and an in-house RIT drag-reduction-system and braking system.



BRAKE : RIT designed calipers, pistons, rotors and adjustable pedal box
BSCD : 95mm/63.4mm/1 cylinder/449cc
COOLING : Side-mounted single core radiator and ducting
DRIVE : Four-speed gearbox, rear wheel chain drive, CFRP halfshafts
ELECTRONICS : Bosch MS6.1 ECU, Racepak Smartwire PDU
ENGINE : Yamaha WR450F
FR/RR TRACK : 1143mm/45in
FRAME : CFRP Monocoque
FUEL SYSTEM : RIT developed port fuel injection
FUEL TYPE : 100 Octane
MATERIAL : Carbon fiber reinforced plastic/aluminum honeycomb
MPD : 9400
MPT : 7100
OLWH : 3000mm/118 in., 1359mm/53.5in., 1143mm/45in
SUSPENSION : Unequal, non-parallel, double A-arm
TIRE : 18-6x10 Hoosier R25B
UNIQUE : RIT developed drag-reduction-system and braking system
WEIGHT : 490 lbs
WHEELBASE : 1651 mm/65 in



The University of Pittsburgh's PR-029 racecar is the team's 29th entry into the FSAE design series. This car was designed to be competitive in all aspects of the various Formula Student events. To achieve these results the team focused on various analysis methods to improve on performance, reliability, and weight reduction all while maintaining good engineering practices. Focusing on these aspects led us to design and build a racecar with the following attributes: steel tube chassis, 13" wheels, Honda CBR600RR engine, electro-pneumatic paddle operated shifter, a Motec electronics suite, and a full aerodynamics package with undertray.



BRAKE : Slotted 4142 Floating Rotors
BSCD : 67/42.5/4/599
COOLING : Left side mounted cross-flow dual pass radiator, 844 cfm fan
DRIVE : Chain driven, 428 Chain
ELECTRONICS : MoTeC m400 ECU, PDM 30, SDL3 Sport Dash Logger
ENGINE : Honda CBR600RR
FR/RR TRACK : 1245 mm, 49 in / 1195 mm, 47 in
FRAME : Steel Tube Space Frame
FUEL SYSTEM : Stock Honda CBR600RR, Sequential-Fire, Port Electronic Fuel Injection
FUEL TYPE : 93
MATERIAL : AISI 4130, CFRP, Mg, Al, Plastics
MPD : 11650
MPT : 10100
OLWH : 3111.5 mm/122.5 in, 1442.7 mm/56.8 in, 1176 mm/46.3 in
SUSPENSION : Fully independent SLA, pull-rod actuated coilover dampers, u-bar anti-roll
TIRE : 20.5 X 7.0 R25B Hoosiers
UNIQUE : Blown Diffuser
WEIGHT : 632
WHEELBASE : 1625 mm, 64 in





The first appearance of Unimet Motorsports in FSAE Michigan was in 2004. Afterwards only 3 cars were made, the last one in 2015 and 2016. Our model 2017 materializes the hard works done for this group of students since 2013, our goal is to set a background so future generations have the chance to make improvements and do a better job from our experience, in order to guarantee the continuity in competing in Formula SAE. Therefore, for this year, we are looking to complete all static and dynamic events. With reliability in mind, the 2017 prototype is a frame body designs, developed and constructed in our facilities with a 600cc Kawasaki engine, 13 inch Hoosier tires and a series of components made by ourselves. We would like to thanks to our sponsors for helping us to achieve this Project, without them it couldn't be possible. Also to our parents, our faculty advisor Daniel Da Corte and the Universidad Metropolitana for their patience and opportune assistance.



BRAKE : Gray cast iron rotors. Wilwood Calipers and Master Cylinders
BSCD : 66mm/43.8mm/ 4 Cilynder 599cc
COOLING : Single mounted Radiator, with Electric fan
DRIVE : Chain Drive TRE Differential
ELECTRONICS : Haltech Elite 1500 ECU
ENGINE : Kawasaki Ninja ZX6RR
FR/RR TRACK : FR:1320mm/52" RR:1270mm/50"
FRAME : 4130 Chromoly Round Steel Tube
FUEL SYSTEM : Bosh Internal Fuel Pump and Custom Aluminum Tank
FUEL TYPE : 93 Octane
MATERIAL : Chromoly, Aluminum and Fiberglass
MPD : 86 KW at 13000 RPM
MPT : 65 KW at 13 RPM
OLWH : 185x147x120 mm
SUSPENSION : Double A-arms. Push rod with Fox Van RC Dampers
TIRE : 20.5x7-13 R25B Hoosier
UNIQUE : Rotors are design and built by the team
WEIGHT : 610 lb
WHEELBASE : 1700mm/67"



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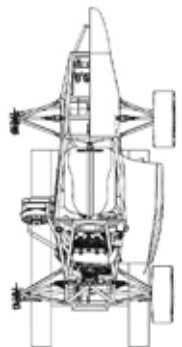
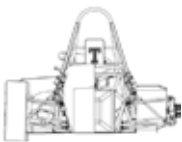


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Temple Formula Racing is proud to introduce our lightest and most innovative car to date. 2017 marks the 6th car constructed by Temple University. With a heavy focus on parts optimization and weight reduction, individual component weights decreased by an average of 5%, leading to an overall weight reduction of 30 pounds over the previous year. The decrease in weight, paired with a new for 2017 Honda CBR600rr power plant, has led to significant gains in both handling and acceleration. A refined suspension ensures that the influx in power put to good measure. A better CAD parts library allowed for a more optimized frame design that efficiently packages the components together with minimal wasted space. A more ergonomic cockpit ensures the driver is capable of using the newfound grip and power. In all, the 2017 vehicle will be the fastest, lightest, and most reliable that Temple has ever produced.

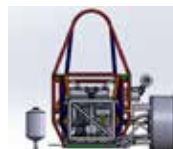


BRAKE : Brembo P34G in Front Wilwood PS-1 Calipers in Rear custom brake rotors
BSCD : 67/42.5/4/599
COOLING : Modified Yamaha R6 radiator, 1500 CFM fan
DRIVE : Chain Drive Taylor Race MKII LSD
ELECTRONICS : Megasquirt ECU
ENGINE : Honda CBR600RR
FR/RR TRACK : 1360.5mm/53.5in Front 1326.4mm/52.25in Rear
FRAME : 4130N Chromoly Space Frame
FUEL SYSTEM : EFI, DW100 Fuel Pump, Custom Aluminum Fuel Tank
FUEL TYPE : 100 Octane
MATERIAL : Steel, Aluminum, Carbon Fiber
MPD : 12,000 RPM
MPT : 10,000 RPM
OLWH : 2904mm / 1664mm / 1269mm
SUSPENSION : Double Unequal Length A-Arms Front/ Rear adjustable camber/toe
TIRE : Hoosier R25B 20x7.5
UNIQUE : SLA Printed intake
WEIGHT : 620lb w/ Driver
WHEELBASE : 1651mm / 65in



CFR 2017 is a continuation of CFR 2016. The steel tube frame used for the past four years has provided a solid foundation for the car. CFR continues to run a Yamaha R6, and is featuring redesigned side pods. This car is built for speed, and will be competitive in the acceleration event.

We would like to thank our sponsors that helped make this car possible.



BRAKE : 3 AP Racing 4 Piston Calipers Tilton Master Cylinders
BSCD : 600 cc 4 Cylinder
COOLING : Radiator Water Cooled
DRIVE : Chain
ELECTRONICS : Wiring Harness
ENGINE : 2008 Yamaha R6
FR/RR TRACK : 44"/42"
FRAME : 4130 Chromoly Tube w/Fiberglass Inlaid Panels
FUEL SYSTEM : Multi-Point Pickup
FUEL TYPE : 100 Octane
MATERIAL :
MPD : 86 hp (13,000)
MPT : 45 ft*lbs (9,000)
OLWH : 102", 53", 43"
SUSPENSION : Non-Parallel Unequal Length A-Arms Push/Pull Rod Actuation
TIRE : 10" Hoosier LCO
UNIQUE :
WEIGHT : 600 lbs
WHEELBASE : 60"





For ERAU Motorsports' 3rd Formula SAE vehicle, the focus was on reliability, manufacturing methods, and aerodynamic performance. The design of ER03 focused on optimizing the systems from ER02 that worked well, and replacing the ones that didn't. This year's team benefited from the experience of running its first competition vehicle the previous year.

The 2016 competition design judges highlighted the major aspects of our FSAE program that needed the most attention. The front runners were driver ergonomics and the aerodynamic surfaces' manufacturing quality. This prompted an overhaul in the design of the driver seating position and the addition of an innovative pedal movement system. To improve our composites program, we reached out to friends in the racing industry for mentoring. Aero surfaces this year will be layed up on CNC machined RenShape tools.

Other systems were simplified to reduce weight and solve ongoing reliability or performance issues. Examples include diff placement and half shaft angle, front suspension rocker geometry, and exhaust system packaging. ER-03 is the next step on our path toward the top tier of FSAE teams and programs.



BRAKE : CP4227 Front, CP4226 Rear, Pedal Ratio 6:1, 5/8ths Master Cylinders
BSCD : 67.0mm/42.5mm/4 Cylinders/599cc
COOLING : Water based system with electric pump
DRIVE : Rear Wheel Drive
ELECTRONICS : Motec C125, M130, E816
ENGINE : 2008 CBR 600RR
FR/RR TRACK : 48in/48in
FRAME : 4130 Steel Tube
FUEL SYSTEM : Single Stage Fuel Injection
FUEL TYPE : 93 Octane Gasoline
MATERIAL : Composite Body Work (Carbon fiber based)
MPD : 102hp (13500rpm)
MPT : 48ft.lb (10000rpm)
OLWH : 112in
SUSPENSION : Pull Rod Front Actuation
TIRE : 6.0/18.0-10, LCO, R25b
UNIQUE : High-nose suspension and frame configuration
WEIGHT : 590lb
WHEELBASE : 61in



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Year one.

The University of New Brunswick's Firecats racing team is a team of 18 students from Atlantic Canada, all with the collective goal of competing for the first time at the Formula SAE competition. We aim to do well and represent our school professionally, however, we are UNBdifferent.

Our efforts were focused on performance, but close behind that is safety, driver comfort, and then environmental impact. These are components that are less significant in the racing industry, but are still highly marketable.

With each new year, we aim to incorporate innovative and optimize technologies to become increasingly competitive.



BRAKE : Front hub and Diff mounted Wilwood calipers
BSCD : 67 bore / 42.5 / 600cc 4 stroke
COOLING : Dual pass aluminum radiator
DRIVE : Chain driven, torque biasing differential
ELECTRONICS : PE3 8400 ECU
ENGINE : CBR 600 F4i
FR/RR TRACK : FR: 1250mm / RR: 1150mm
FRAME : Totally tubular space frame
FUEL SYSTEM : Custom baffled fuel tank, double filtered
FUEL TYPE : 93 octane
MATERIAL : Chromoly, aluminum
MPD : 10000
MPT : 8500
OLWH : 2855mm / 1427 mm / 1397mm
SUSPENSION : Double A-arm with push rod actuation
TIRE : 13" Hoosier
UNIQUE :
WEIGHT : 597 lb
WHEELBASE : 1828 mm



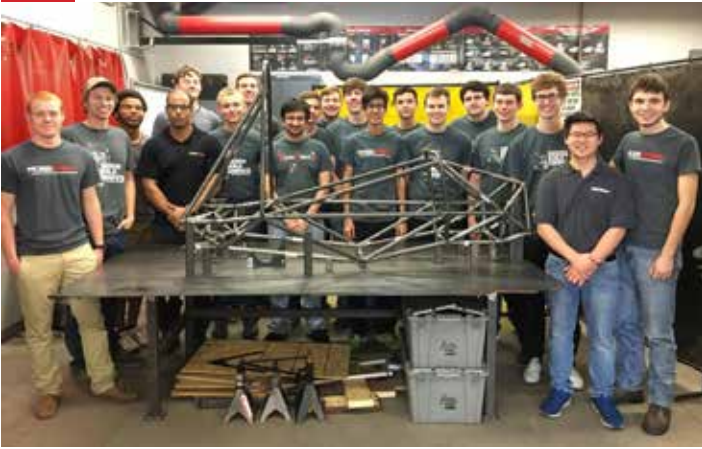
The University of Hartford's HR17 is the second iteration of our most recent design and features a multitude of brand new components. A redesigned differential cage, air intake, steering system, and suspension system are the main hallmarks.

We would like to thank all of our fantastic sponsors and the employees of the University of Hartford who go out of the way to support us each year. More specifically, we would like to thank Paul Oliva, Frank Stadmeyer, Matt Plakunov, and Chris Dziurgot for going above and beyond in their service to the team.



BRAKE : 304 Stainless Steel Rotors, Floating Calipers, Kevlar Carbon Brake Pads
BSCD : B: 98mm S: 68mm C: 2 Per Caliper D: 449cc
COOLING : Side Mounted Radiator
DRIVE : Torsen Limited Slip Diff, 520 roller chain
ELECTRONICS : Performance Electronics PE3
ENGINE : Yamaha YFZ450r
FR/RR TRACK : 1372mm/54in, 1321mm/54in
FRAME : Tubular Space Frame
FUEL SYSTEM : Edge Fuel Injection System
FUEL TYPE : 100 Octane
MATERIAL : 4130 Chromoly Steel
MPD : 9000 rpm
MPT : 7500 rpm
OLWH : L: 2680mm/105.5in W: 1550mm/61in H: 1105mm/43.5in
SUSPENSION : Unequal Length Double Wishbones, Pull Rod Front/Push Rod Rear, Ohlins TTX-25s
TIRE : Hoosier 18.0x6.0, R25-B
UNIQUE : Multiple stickers @ 3WHP per sticker
WEIGHT : 545lbs
WHEELBASE : 1537mm/60.5in





RoseGPE's goals for the 2017 season include turbocharging our YFZ450R powerplant, creating a custom data acquisition system and CAN connected electronics system, increasing aerodynamic efficiency, and improving the reliability and serviceability of the car as a whole. We believe this will help create a competitive car at both the Michigan and Lincoln competitions.



BRAKE : stopping distance: 19.25m at 24.5m/s, inboard rear, elec. bias control

BSCD : 95mm/63.4mm/Single/450cc

COOLING : Electric water pump and fan

DRIVE : Chain drive

ELECTRONICS : Custom microcontroller network using CAN

ENGINE : YFZ450R, turbocharged/intercooler

FR/RR TRACK : 1219 mm, 1194 mm

FRAME : 4130 Steel tube frame

FUEL SYSTEM : Electronic fuel injection

FUEL TYPE : 100 octane

MATERIAL : Carbon fiber wings and body

MPD : 9500

MPT : 6500

OLWH : 2755mm, 1422mm, 1199mm

SUSPENSION : Pullrod front, pushrod read. Double wishbone

TIRE : 6.0/18.0-10" Hoosier LCO

UNIQUE : Carbon fiber reinforced chassis

WEIGHT : 540 lbs.

WHEELBASE : 62 in.



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At Polytechnique Montreal, we thrive at making a car that is reliable and highly tested to get the maximum of points from our relatively small team. Not only are we pursuing smart engineering design choices, but we are also focused on having better management and workflow in the team so we can improve results every year. We achieved our best score in 2016 since our first entry in 1987 and we are confident we can do better this year!

We are pleased to have such great support from our school, sponsors, friends and family to make this adventure possible!



The primary goal of Ryerson Formula Racing is to complete all dynamic events at the 2017 Formula SAE Michigan. Secondary goals include, validating designs more effectively, improving overall fit and finish, and reducing the weight of select components.

Improved reliability was accomplished by identifying major faults of the previous vehicle through testing over the summer, and designing these flaws out of the new vehicle. Major concerns included oil starvation of the engine, brake fade over extended periods of driving, and lack of handling tunability. Strengths of the vehicle meanwhile, were carried over to the new design, reducing workload in order to deliver a driveable car as early as possible.

Major changes to the chassis this year include the addition of anti-roll bars and a re-designed pedal configuration. Powertrain improvements include a lighter intake, simplified secondary exhaust with tunable noise suppression, and anti-starvation modifications to the oil pan. The electrical system has seen an expansion of the input/output capability of the ECU by integrating sensor "pods" which gather local sensor data for logging.



BRAKE : Floating steel discs, ISR front calipers, AP Racing Rear Calipers

BSCD : 97mm/60.8/single/449cc

COOLING : Side mounted aluminum radiator, no fan

DRIVE : Chain drive, stock sequential 5 speed gearbox, Drexler LSD

ELECTRONICS : Performance electronics ECU, AIM DAQ and dash

ENGINE : BRP Rotax DS450

FR/RR TRACK : 1220mm Front and Back

FRAME : 4130N steel space frame

FUEL SYSTEM : Electronic Fuel Injection

FUEL TYPE : 94 octane gasoline

MATERIAL : Steel, Aluminum, Carbon Fibre, Aircraft Fabric and student blood and tears

MPD : 43HP @ 8500 rpm

MPT : 33 ft-lb @ 6500

OLWH : L: 2540mm W:1580mm H:1066

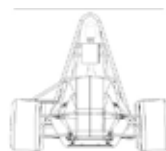
SUSPENSION : Double unequal length A-Arm. Push rod actuated spring / damper. Adj. Rollbar

TIRE : 10in wheels, Hoosier LC0 6.0/18.0-10

UNIQUE : No fancy systems but a lot of reliability!

WEIGHT : 530 lbs

WHEELBASE : 1580mm/62 in



BRAKE : AP Racing Calipers and Master Cylinders, Floating Rotors

BSCD : 67.0 mm / 42.5 mm / Inline 4-Cylinder / 599 cc

COOLING : Side-Mounted, Double-Pass Radiator with Fan

DRIVE : Chain Drive, Drexler Limited Slip Differential

ELECTRONICS : MegaSquirt MS3-Pro ECU

ENGINE : 2007 Yamaha YZFR6

FR/RR TRACK : 1200 mm / 1136 mm

FRAME : Chromoly Spaceframe

FUEL SYSTEM : Multi-Point, Single Stage, Fuel Injection

FUEL TYPE : 93 Octane

MATERIAL : 4130 Steel, Aluminum, CFRP

MPD : 75 hp @ 10 500 rpm

MPT : 36 ft-lbs @ 10 000 rpm

OLWH : 2359 mm x 1458 mm x 1257 mm

SUSPENSION : Push-Rod Actuated, Double Unequal Length A-Arms

TIRE : Hoosier 18.0 x 7.5 -10 R25B

UNIQUE : Steering Wheel Embedded Display

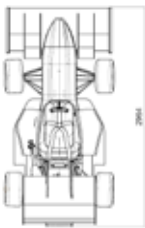
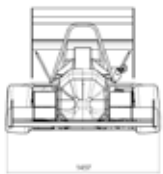
WEIGHT : 610 lb

WHEELBASE : 1600 mm





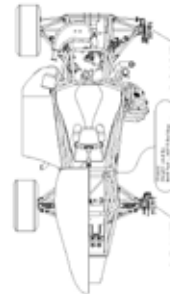
VTM17c is the 27th vehicle produced by Virginia Tech Motorsports for competition in Formula SAE sanctioned events. The team established quantifiable goals and a formal testing program to validate the predictive models used for system level designs. A light-weight, fuel efficient vehicle platform incorporating a carbon fiber monocoque chassis and single-cylinder engine was selected. Launch control and simple driver controls systems have been implemented to aid an amateur driver. A complete aerodynamic package was designed to increase the tractive limits of the Hoosier LCO tires on 10 inch carbon fiber wheels. The car is powered by a Yamaha WR450 engine controlled by a MoTeC M400 engine management system. An adjustable limited-slip differential allows the torque bias ratio to be tuned for acceleration and deceleration events. The suspension, powertrain, electrical, aerodynamics, and ergonomic systems were designed, analyzed, and tested in order to ensure drivers from amateur to professional skill level are capable of consistently driving the car at its tractive limit and able to win the FSAE competition.



BRAKE : Slotted floating rotor, AP Racing calipers
BSCD : 95mm/63.4mm/1cyl/449cc
COOLING : Sidepod ducted radiator
DRIVE : Chain drive, stock gearbox, Drexler LSD
ELECTRONICS : MoTeC M400 ECU with custom PDU
ENGINE : Yamaha WR450
FR/RR TRACK : 1149 mm/1149 mm
FRAME : Hybrid CFRP monocoque, steel tube spaceframe
FUEL SYSTEM : Port injection, 324 cc/min
FUEL TYPE : 93 octane
MATERIAL : Carbon fiber, aluminum, steel, titanium, magnesium
MPD : 30 kW (8300 RPM)
MPT : 38 Nm (6500 RPM)
OLWH : 2964 mm, 1459 mm, 1171 mm
SUSPENSION : Double unequal length A-arm with pullrod actuated coil springs/dampers
TIRE : 18x6.0-10 Hoosier LCO
UNIQUE : Custom data logger and dash display
WEIGHT : 236 kg
WHEELBASE : 1537 mm



Bearcat Motorsports has followed a philosophy of 'evolution, rather than revolution' for over half a decade. The team has worked hard year after year to continually improve and validate our designs. The core design principle of the BCMS17 car is driveability. A car is useless without a driver, so BCMS goes above and beyond to make every design decision with driveability in mind. The Yamaha YFZ450R package has been proven and refined in previous BCMS cars to provide a strong and predictable torque curve. Acceleration is made exhilarating with launch control and driver friendly with paddle shifting and traction control. The frame was designed to enhance ergonomics while maintaining stiffness and simplicity. The suspension follows suit with direct acting dampers and predictable driving characteristics.



BRAKE : AP Racing MCs ; ISR front (4 piston) and rear (2 piston) calipers
BSCD : 98mm/63.4mm/1-Cylinder/478cc
COOLING : 1.3 bar Liquid to Air
DRIVE : Chain Driven Taylor Race Quaife LSD
ELECTRONICS : Performance Electronics PE3 ECU
ENGINE : 2017 Yamaha YFZ450R
FR/RR TRACK : 44/42 in
FRAME : Space Frame
FUEL SYSTEM : Port Injected EFI
FUEL TYPE : 93 Octane Gasoline
MATERIAL : Steel
MPD : 59 BHP (10500 RPM)
MPT : 35 LB*FT
OLWH : 101/52/42 in
SUSPENSION : Ohlins Direct Acting Dampers
TIRE : 18x6-10 Hoosier R25B
UNIQUE : Launch/Traction Control
WEIGHT : 520 lb
WHEELBASE : 61.25 in



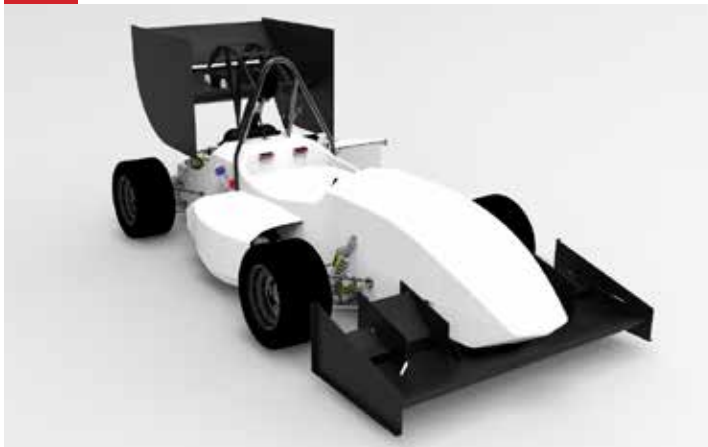
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Our team has participated in 'FSAE' for about 14 years and designed through various accumulated data and experiences.

Based on these experiences, we are striving to produce faster, lighter vehicle according to the characteristics of the 'FSAE' convention. Through such efforts, 'F-17' was designed for the agilest and lightest vehicle.

We applied 'Aerodynamics Parts' using CFD analysis to ensure optimum performance of the selected tire and carried out optimum suspension design connected with the aerodynamics parts. In order to reduce the weight, we adopted 'Carbon monocoque' from the 'Steel Tube Frame'. Moreover, it was designed to maintain high rigidity to make sure that there is no problem of vehicle behavior or safety. Also, in consideration of the convenience of the driver that directly controls the vehicle, 'F-17' was applied various Ergonomics designs so that the driver can run in optimum condition. In addition, the setting of the vehicle through driving data and feedback of the driver resulted in an objective and reliable vehicle. The 'F-17', designed with this design goal, will be focused a great amount of attention on the vehicle that is lighter and faster than ever before.



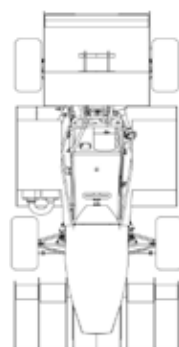
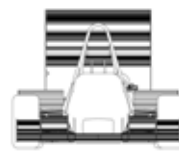
BRAKE : Front, Rear AP Racing Calipers
BSCD : 67.0mm/42.5mm/4 Cylinder/599cc
COOLING : Side Mounted Aluminum Radiator with ECU controlled electric Fan
DRIVE : Honda 520 Chain Drive, Drexler Differential
ELECTRONICS : Haltech ECU
ENGINE : Honda CBR600RR
FR/RR TRACK : 1180mm/1160mm
FRAME : CFRP monocoque
FUEL SYSTEM : Sequential Injection
FUEL TYPE : 100 Octane
MATERIAL : 1020 Steel Round Tubing, Carbon Prepreg
MPD : 10,000RPM
MPT : 10,000RPM
OLWH : 2986mm/1410mm/1172mm
SUSPENSION : Double Unequal Length A-Arm, Front Push Rod Rear Push Rod Actuated Spring
TIRE : 18.0x7.5-10 R25B
UNIQUE : Launch control, Customized carbon-rim, Linear movement pedalbox
WEIGHT : 570lbs
WHEELBASE : 1640mm



Univ of Toronto University of Toronto Formula Racing



UT17 marks the 17th vehicle from the University of Toronto Formula Racing team. This year, there is a heavy focus on weight reduction, downforce, and data acquisition. The team would like to thank all of our supporters and sponsors for making UT17 possible.

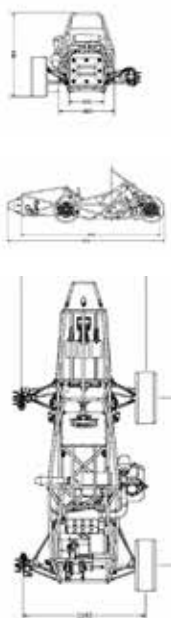


BRAKE : Steel Discs, 4/2 Piston F/R Calipers
BSCD : 96/62/1/450cc
COOLING : Water cooled, side mounted radiator
DRIVE : Chain Drive, Drexler LSD
ELECTRONICS : PE3 ECU, 2D Data Logger
ENGINE : Honda TRX 450
FR/RR TRACK : 1226/1152 mm
FRAME : Hybrid Steel - Composite Chassis
FUEL SYSTEM : Port Injected
FUEL TYPE : 93 Octane
MATERIAL : 1026 DOM Steel, Carbon Fibre, Aluminum
MPD : 9000
MPT : 6500
OLWH : 2916,1226,1175
SUSPENSION : Dual Unequal A-arms, Pull Rod F/R
TIRE : 10" R25B
UNIQUE : Cast Al. Uprights, Hybrid Chassis
WEIGHT : 530 lb
WHEELBASE : 1537mm





FK02 is the second competition vehicle produced by the Formula Kentucky team. As such, FK02 follows the design philosophy of FK01, while making refinements in important areas such as engine management, ergonomics, and suspension. The team put a heavy focus on increasing the use of data acquisition and simulation to drive design changes. To this end, FK02 incorporates a vehicle sensor package and Haltech Elite 1500 ECU. Other notable improvements include a reduction in overall vehicle size and weight, lowered center-of-gravity, and decreased rotational mass.



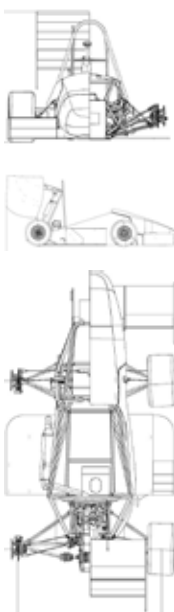
BRAKE : Willwood GP200 Calipers
BSCD : 67 mm / 42.5 mm / 4 cyl / 599 cm³
COOLING : Water Cooled Single Radiator
DRIVE : Chain Driven LSD
ELECTRONICS : Haltech Standalone ECU
ENGINE : Honda CBR600 RR
FR/RR TRACK : 1143 mm / 45 in
FRAME : Carbon Steel Space Frame
FUEL SYSTEM : Fuel Injected
FUEL TYPE : E85
MATERIAL : AISI 1020 Steel
MPD : 12,800 RPM
MPT : 10,000 RPM
OLWH : 2642 mm / 104 in, 1334 mm / 52.5 in, 1181 mm / 46.5 in
SUSPENSION : Pull Rod SLA
TIRE : 18.0" x 7.5", Hoosier R25B
UNIQUE : Electronic Shifting
WEIGHT : 610 lbs
WHEELBASE : 1600 mm / 63 in



United States



This will be the fourth consecutive year that West Virginia University will be competing at the Formula SAE competition in Michigan. The goal of this year's team was to continue to build on the previous year's success in dynamic competition. To achieve this success, a number of goals were set. Among these goals include: weight reduction, improve maneuverability, and high reliability. The 2017 car will display a completely redesigned aerodynamics and powertrain packages which will again help to improve performance over the previous year's car. We also would like to extend a thank you to all of our supporters this year, especially, Aurora Flight Sciences, The Shcaeffler Group, Siemens, West Virginia University Department of Mechanical and Aerospace Engineering, Dr. Prucz, and Dr. Wayne.



BRAKE : 4 Floating Rotor, Wilwood PS1 Caliper
BSCD : 95.0 mm/63.4 mm/1/449.3 cc
COOLING : Single Side Mount Radiator
DRIVE : Chain Drive, Drexler LSD
ELECTRONICS : Vortex Ignitions ECU, Racecapture MK3 Pro
ENGINE : KTM 450 XC-W
FR/RR TRACK : 1219/1194 mm
FRAME : Tubular Space Frame
FUEL SYSTEM : Electronic Injection
FUEL TYPE : E85
MATERIAL : 4130 Chrome Moly
MPD : 8700
MPT : 6500
OLWH : 2986.5 mm, 1308 mm, 1200 mm
SUSPENSION : Independent Double Wishbone Front and Rear
TIRE : 10 inch wheels 18.3 inch OD R25B Hoosier Compound
UNIQUE : First year utilizing data acquisition.
WEIGHT : 550
WHEELBASE : 1525 mm



United States



Ecole De Technologie Superieure Formule ETS



Our team is comprised of 20 engineering students. We are well known in the FSAE-World for our innovative design approach that is validated by the development of a race car with a high standard of quality, workmanship and emphasis on details such as packaging, ergonomics and weight reduction.



BRAKE : Inboard/Outboard
BSCD : 98mm/60.8mm/1 /458cc
COOLING : Electric Water pump system
DRIVE : Chain driven
ELECTRONICS : Motec
ENGINE : ETS design
FR/RR TRACK : 45in/45in
FRAME : Carbon Fiber monocoque
FUEL SYSTEM : Injection
FUEL TYPE : E85
MATERIAL : Aluminium , titanium, carbon fiber
MPD : 55hp @ 10500 rpm
MPT : 55 Nm @ 6500 rpm
OLWH : 2855mm/1310mm/1200mm
SUSPENSION : Front and rear decoupled setup
TIRE : 7 in Avon tyres
UNIQUE :
WEIGHT : 450 lb
WHEELBASE : 60,25 in



Lakehead Univ Thunder Wolf Racing

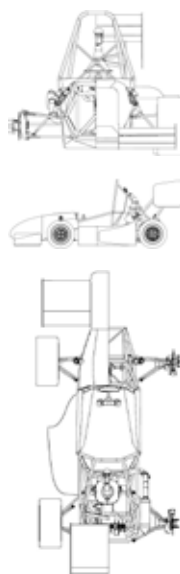


After 9 years of participating in Formula SAE, Lakehead University of Thunder Bay, Ontario, located on the shores of Lake Superior returns in 2017 with a new car hosting a range of improvements.

Focusing on reliability and robustness, many of the components have been redesigned from the ground up by our dedicated team of thirteen students who are all new to the Formula SAE competition.

Chassis, suspension, driver ergonomics, engine auxiliary systems, and aerodynamics have all been key areas identified by our team requiring improvement. The chassis and drivers cockpit have been redesigned to achieve an increase in torsional rigidity and to enhance driver controls. A need for reduction in unsprung mass and optimization of geometry lead to redesign of the suspension package. Refinements to the intake and exhaust systems were carried out to flatten the torque curve to improve overall drivability of the vehicle; and finally, a first for the Lakehead team this year will be the incorporation of front and rear aerodynamic wings to increase downforce.

New car. New team. New ideas. Thunder Wolf Racing plans to be a competitive force on the track!



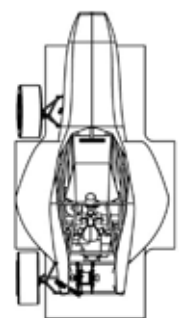
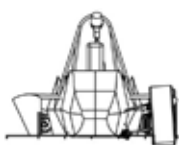
BRAKE : Floating Cast Iron Rotors, Wilwood PS-1 Calipers
BSCD : 67mm/42.5mm/4/599cc
COOLING : Single Side Mounted Radiator with Electrically Actuated Fan
DRIVE : Chain Drive, TRE Driveline
ELECTRONICS : Haltech PS1000
ENGINE : Honda CBR600RR
FR/RR TRACK : 1220mm/1180mm
FRAME : Tubular Space Frame
FUEL SYSTEM : Port Fuel Injection with Denso Injectors
FUEL TYPE : 93 Octane
MATERIAL : 1020 DOM
MPD : 11000
MPT : 9000
OLWH : 3010mm/1360mm/1165mm
SUSPENSION : Double Uneven Wishbone, Pushrod Actuated Spring
TIRE : 20.5x7-13 R265B Hoosier
UNIQUE :
WEIGHT : 283kg
WHEELBASE : 1600mm





Representing the University of Massachusetts Lowell, River Hawk Racing (RHR) undertook the project of carrying on the ambition, excellence, and knowledge of its alumni. To achieve this, the team has dedicated its last two years to competing at FSAE Michigan by producing a vehicle that embodied the spirit of the team and its supporters.

For 2017, RHR debuts the MK-IV, a car focused on simplicity, predictability, and adjustability. Based on a high strength steel space frame, it features a Honda CBR600 F4i engine that delivers its power through a sequential manual gearbox and Torsen differential. The combination of a stiff chassis and powerful drivetrain allows for drivers to push their limits through a predictable, configurable, and engaging RWD setup.



BRAKE : Disc Brakes, Wilwood Dynalite Calipers
BSCD : 67mm/42.5mm/4 cyl. /599cc
COOLING : Water cooled
DRIVE : RWD Torsen Differential
ELECTRONICS :
ENGINE : 2003 CBR600 F4i
FR/RR TRACK :
FRAME : 4130 steel space frame
FUEL SYSTEM : Fully Sequential Fuel Injection
FUEL TYPE : gasoline
MATERIAL :
MPD : 50kW (10,500)
MPT : 46Nm (10,250)
OLWH :
SUSPENSION :
TIRE : 20.5x7-13 r25b
UNIQUE :
WEIGHT : 600 lb
WHEELBASE :



The 2017 Parks Racing team is competing in Formula SAE Michigan for the first time in its recent history. Although the team has produced different designs in the past, this submission serves as a foundation for future teams to improve upon. Parks Racing focused on producing a low cost car that incorporates as many stock components from the donor motorcycle, a Honda CBR600F4i, as possible. Tooling as well as ease of maintenance were additional design priorities. This would allow for the end-user, the weekend racer, to more easily source parts and perform repairs if necessary. The car is reminiscent of classic Indy and Formula vehicles from years before the utilization of excessive aerodynamic aids, which often create more difficulties (functionally and aesthetically) than what they are worth.

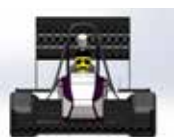


BRAKE : Wilwood Calipers, Tilton master cylinders
BSCD : 67 mm/42.5 mm/4/599 cc
COOLING : Centrally mounted and duct fed stock radiator
DRIVE : Chain drive, torsen type differential
ELECTRONICS : Modified stock harness, stock ECU, Power Commander V
ENGINE : Honda CBR600F4i
FR/RR TRACK : 54 in/54 in
FRAME : 4130 tubular space frame
FUEL SYSTEM : Aluminum fuel tank, stock EFI
FUEL TYPE : 93 octane
MATERIAL : Carbon fiber and fiberglass bodywork, aluminum paneling
MPD : 12,500
MPT : 10,500
OLWH : 133 in/54 in/45 in
SUSPENSION : Unequal streamline a-arms, direct acting coilovers
TIRE : 20.5" Hoosier R35A
UNIQUE : Modular transaxle
WEIGHT : 850 lb
WHEELBASE : 78 in





The aim of the Kansas State University Formula SAE team is to design an efficient formula style vehicle that can compete at the highest level of competition. The best way for our team to achieve the goal of a top 25 finish, is to first and foremost have a reliable car. Our car must be able to perform in a consistent manner, without failure. By incorporating a light aerodynamics package, a rigid chassis with a well developed suspension, a dependable powertrain and a reliable electronics system, we have a car designed to be reliable, predictable, and lightweight.



BRAKE : Outboard Floating Rotors
BSCD : 74mm bore / 52.3mm stroke / 3cyl / 41ci
COOLING : Dual Core Custom Aluminum Radiator
DRIVE : Chain Drive
ELECTRONICS : Aim Evo 4 DAQ / PE3 ECU
ENGINE : Triumph Street Triple 675
FR/RR TRACK : 48 / 46 inches
FRAME : One Piece CFRP Monocoque
FUEL SYSTEM : Aeromotive Custom
FUEL TYPE : High Octane Race Fuel
MATERIAL : Carbon Fiber, 7075 Al, 4340 Steel, More Carbon Fiber
MPD : 8500rpm
MPT : 5000rpm
OLWH : 110.25 in / 55 in / 47.5 in
SUSPENSION : Double Wishbone Pushrod
TIRE : Hoosier 18x7.5 R25B
UNIQUE :
WEIGHT : 600lbs
WHEELBASE : 64in



The 2017 US Air Force Academy Racing team utilizes an iterative design process of the previous year's car to maximize performance. Building upon prior successes and learning from our shortcomings, our team is able to present a competitive race car. Upgrades include revamped intake, suspension, and body design along with more considerations for the driver to include increased handling and comfort. While designing, constructing, and competing with this year's car, cadets are challenged and gain hands-on experience in both teamwork and leadership.

Our team consists of cadets from various academic majors, with each member earning a commission as an officer in the United States Air Force upon graduation. First-Class Cadets (seniors) on the team will be serving in career fields ranging from developmental engineers to pilots after graduation.



BRAKE : Hydraulic Disc Brake System
BSCD : 95.5 mm/62.8 mm/1 cylinder/450cc
COOLING : Single Side Mounted Radiator
DRIVE : Chain Driven, Limited Slip Differential
ELECTRONICS : PE3-8400A ECU
ENGINE : LTR 450
FR/RR TRACK : 46 in/46 in
FRAME : 4130 Steel Space Frame
FUEL SYSTEM : Electronic Fuel Injection, Keihin LTR 450 Injector
FUEL TYPE : 93 Octane
MATERIAL : 4130 Steel/ Aluminum/ Carbon Fiber
MPD : 9000 rpm
MPT : 6500 rpm
OLWH : 103 in/47 in/46 in
SUSPENSION : Double Unequal Length A-Arms, Push Rod Actuated Coilovers
TIRE : 18.0"x6.0"-10 R25B Hoosier
UNIQUE : 6th Generation Fighter Technology
WEIGHT : 520 lbs
WHEELBASE : 61 in





With the biggest and most dedicated team Stevens has ever had, this year's team plans to successfully complete every event at the Michigan competition. Falling back to the basics, all designs prioritized safety, reliability, simplicity, and manufacturability. Thorough vehicle testing and driver training have been missing from the team in previous years, so this year's methodology centered on getting the vehicle built as quickly as possible to maximize testing hours.

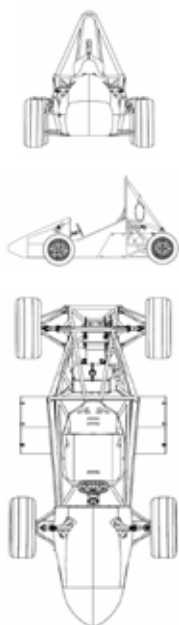
Being a senior design project at our school, all 13 members of the team are seniors and have never competed in FSAE. Research and planning began 6 months earlier than past teams to increase the project timeline from 9 months to 15 months. With a bigger team, effective project management was crucial to keep everyone working efficiently.

None of this would have been possible without our advisor Dr. De Rosa, Prof. Nazalewicz, Dr. Fisher, Milan Simonovic, John Cengiz, Doug, Marshal, Mr. Scanlon, Angela, Apex Autowerks in Clifton New Jersey, Exxon Mobil, Misumi, OZ Racing, and Stevens Institute of Technology's Mechanical Engineering Department.

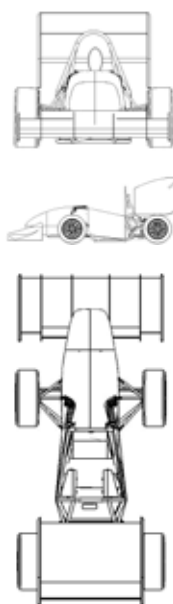


This year, the UQTR FSAE formula team is more than ever ready to deliver a light weight, faster and handy car. We redesign a lot of part to reduce weight and manage the position of gravity centre. The result is a steel space frame, 13-inch wheels car of less than 440 lbs including the aero package. Talking of aerodynamics, our front and rear wings should produce enough downforce to increase traction on our tires. And finally, in order to make the job easier for our drivers, our electronic department design a digital display to show data.

The UQTR racing team is well prepared and confident to have design and manufacture a competitive car for the FSAE Michigan competition.



BRAKE : Wilwood PS1 Brake Calipers
BSCD : 67mm/42.5mm/4/600cc
COOLING : Yamaha YFM Raptor 700R radiator
DRIVE : Chain Drive - Taylor Race Differential
ELECTRONICS : PE3
ENGINE : Yamaha YZF-R6
FR/RR TRACK : 48in (1219.2mm) / 46in (1168.4mm)
FRAME : Steel Space Frame
FUEL SYSTEM : Fuel Injection
FUEL TYPE : 93 Octane Gasoline
MATERIAL : Carbon Fiber Body
MPD : 70 HP @12000
MPT : 40 lb-ft @ 10000
OLWH : 113in (2870.2mm) / 48in (1219.2mm) / 52.25in (1327.15mm)
SUSPENSION : double wishbone, unequal lengths, direct acting springs and dampers
TIRE : 20.0x7.5-13, R25B, Hoosier
UNIQUE : Aluminum CNC machined front and rear uprights
WEIGHT : 710lb
WHEELBASE : 68in (1727.2mm)



BRAKE : Floating disc brakes, Pull type master cylinders, Wilwood calipers
BSCD : 67mm/42.5mm/4 cylinders/599cc
COOLING : WaterCooled, Electric fan
DRIVE : 520 chain drive, Drexler FSAE specific differential
ELECTRONICS : Electropneumatic shifter, No alternator, ParayElectronic ECU, Custom display
ENGINE : Honda CBR600RR 2004
FR/RR TRACK : 48 in/46 in
FRAME : Chromoly 4130 tubing, TIG welded
FUEL SYSTEM : Returnless, Port injection
FUEL TYPE : 93 octane
MATERIAL : Chromoly, Aluminium, Titanium, Carbon fiber, Rapid prototyping, etc.
MPD : 68.53 hp @ 11 000 rpm
MPT : 41 lb-ft @ 8 000 rpm
OLWH : 100 in/54 in/40.5 in
SUSPENSION : Double unequal length A-Arm, Push rod actuated spring
TIRE : 20.5x7-13 R25B Hoosier
UNIQUE : Lightweight front and rear wing with fabric aircraft construction
WEIGHT : 580 lb
WHEELBASE : 60 in



United States



Canada



Kettering University Motorsports is proud to introduce GMI2017. Continuing with a lightweight vehicle philosophy, the turbocharged 450 cc engine was maintained. Special attention was given to reduce overall system mass and improving vehicle dynamics through a redesigned suspension and efficient aero package. We firmly stand behind our design philosophy which promotes efficient use of materials and processes that create a simple, all-around effective competitor.

We would like to thank all of our sponsors for their support in the pursuit of the spirit of SAE. We would like to give a special thanks to our friends, families, and sponsors for their continued support.



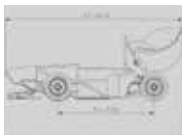
Colegio Racing Engineering proudly presents CC-1. With our Simplicity, Reliability, Cost Effectiveness and Light Weight being our main focus; we have the most sophisticated car that UPR Mayagüez has developed. This was achieved by forging a solid team.

CC-1 has now set a new, higher standard for future UPRM FSAE cars. Key features include our intuitive instrument panel and a unique lightweight body developed in a joint venture with our university's SAE AeroDesign team.

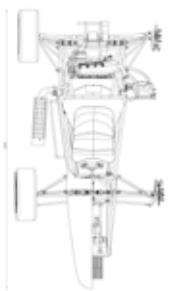
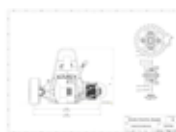
We would like to thank our sponsors and all who have supported us throughout this adventure. Without you, CC-1 would not have been possible.

#ComoCoco

Antes, Ahora y Siempre, ¡COLEGIO!



BRAKE : Waterjet 1018 Steel Floating Rotors, Tilton MC, Wilwood Calipers
BSCD : 95mm/62.4mm/1 cyl/ 450cc
COOLING : Raptor 700 Radiator
DRIVE : Chain Driven, Drexler Formula Student Diff
ELECTRONICS : Woodward 70 Pin, Minimalist Loom
ENGINE : Yamaha WR450F
FR/RR TRACK : (1187mm/47") (1187mm/47")
FRAME : 1018 Mild Steel
FUEL SYSTEM : Relatively-Low-Pressure EFI
FUEL TYPE : E85
MATERIAL : Steel and Aluminum
MPD : 65 hp (8700 rpm)
MPT : 55 Nm (8000 rpm)
OLWH : (2822mm/111" long)(1441mm/57" wide) (1182mm/47" tall)
SUSPENSION : Double unequal length A-Arm with Pull Rod Front and Push Rod Rear
TIRE : 18x7.0x10 Hoosier LCO
UNIQUE :
WEIGHT : 525lbm (238kg)
WHEELBASE : 1560mm/61.5"



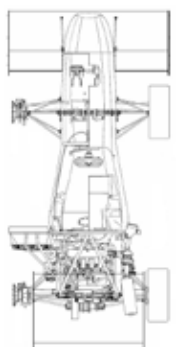
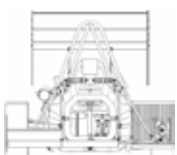
BRAKE : 4 Disk / Wilwood Calipers
BSCD : 67 mm / 42.5 mm / Inline 4 cyl / 599 cc
COOLING : Single, Side Mounted Aluminum Radiator
DRIVE : Chain Drive, Quaife Differential
ELECTRONICS : Megasquirt 3X, Custom In-Dash Digital Gauge Display
ENGINE : Honda CBR600RR
FR/RR TRACK : 60.5 / 59.5
FRAME : Tubular Space Frame AISI 4130
FUEL SYSTEM : Dual Stage Fuel Injection
FUEL TYPE : 93 OCT Recycled Fossils
MATERIAL : 4130 Chromoly
MPD : 10500
MPT : 8000
OLWH : 2477mm, 1421mm, Height
SUSPENSION : Double unequal length A-Arm with pushrod
TIRE : 20.5 x 7.0-13 Hoosier R25B
UNIQUE : Implemented aircraft technology on composite bodywork
WEIGHT : 650
WHEELBASE : 1559mm





ARG17 has been designed to be lightweight, well integrated, and easy to manufacture. In order to maintain a high power to weight ratio, we paired a turbocharged CBR600RR engine with a one piece carbon fiber monocoque. Precise handling is ensured with a push-rod suspension system, front and rear wing aerodynamic package, and a feather-light steering system.

A removable rear frame member allows for increased engine accessibility and reduces engine swaps to under 6 hours without sacrificing chassis stiffness. Continuing the efforts to make a well-integrated car, ARG17's cockpit design was driven by driver ergonomics. A tightly packaged steering and pedals system, along with a carbon fiber seat create a comfortable driver-focused cockpit while maintaining a lightweight ergonomics system. A focus on making parts more easily manufacturable coupled with an accelerated manufacturing schedule enabled us to be driving in early February. This yielded in the longest testing and development season in 6 years for our team, which we are confident will result in success for ARG17 at MIS this year.



BRAKE: Floating rotor
BSCD: 67mm / 42.5mm / 4cyl / 599cc
COOLING: Ducted sidepod-mounted radiator with thermostatic controlled electric fan
DRIVE: Chain
ELECTRONICS: MoTeC M400 ECU
ENGINE: Honda CBR600RR
FR/RR TRACK: 1213mm (48in) / 1194 mm (47in)
FRAME: Carbon fiber monocoque, 4130 frame member
FUEL SYSTEM: Sequential port injection
FUEL TYPE: E85
MATERIAL: Atoms
MPD: 9000
MPT: 7000
OLWH: 2903mm (114in) / 1382mm (54.5in) / 1130mm (44.5in)
SUSPENSION: Double unequal length a-arms, pushrod actuated spring/damper, adj. anti-roll
TIRE: Hoosier 18.0 x 6.0-10 R25B
UNIQUE: Anodized monocoque
WEIGHT: 560
WHEELBASE: 1575mm (62in)



The OG17 was designed around UBCO Motorsports four goals of mechanical simplicity, manufacturability, affordability, and reliability. The cockpit is spacious, with driver safety and comfort in mind. The frame is constructed of 4130 steel, and weighs 85 pounds. A CBR-600rr engine was chosen for its proven reliability and power, and an innovative engine mounting system was implemented to allow for fast, simple service. The drivetrain employs a lightweight salisbury-style differential, which enables chain adjustment and fine-tuning of slip. The suspension system, a-arms, and rods all incorporate a high degree of adjustability, ensuring optimum alignment and geometry. The driver is shielded by a Hybrid ABS and carbon fiber bodywork system, which maintains durability while minimizing weight. A lightweight 3D printed intake was modeled through use of CFD, integrating primary and secondary injection. ETC was chosen to allow for traction and launch control. A Haltech Elite 1500 ECU and AIM dash were implemented for CAN compatibility and channel expandability. Using 50 logged channels and 33 sensors, data acquisition is maximized to provide a knowledge basis for future vehicles.



BRAKE: 4 piston front calipers, 2 piston rear calipers
BSCD: 42.5mmX67mm 4cyl 600cc
COOLING: Liquid cooled
DRIVE: Chain 520 12:49
ELECTRONICS: Haltech Elite 1500 and AIM MXL Pista
ENGINE: Cbr-600RR
FR/RR TRACK: 1752.6/69
FRAME: Tubular Steel Space Frame
FUEL SYSTEM: Dual stage multipoint fuel injection
FUEL TYPE: 93 octane gasoline
MATERIAL: 4130 steel
MPD: 11000
MPT: 8000
OLWH: Length: 115 in (2910 mm), Width 69 in (1750 mm), Height: 50 in (1270 mm)
SUSPENSION: Unequal length, double wishbone suspension
TIRE: 20.5 x 7 -13, R25B
UNIQUE: Engine mounting system
WEIGHT: 790 lb
WHEELBASE: 74 in (1880 mm)



101

North Dakota State Univ

Bison Motorsports



The primary goal of the 2017 North Dakota State University Formula SAE team is to design and build the most reliable Formula car in recent NDSU history. In order to accomplish this, the design objectives included designing for ease of manufacture and assembly, meeting all safety and rule requirements, minimizing the weight of the vehicle, and designing a reliable powertrain system. The NDSU Formula team this year has also focused on designing a lightweight and completely adjustable suspension and steering system incorporating carbon fiber swedged tubes for the A-Arms, push rods, and tie-rods. The adjustable suspension will allow for the vehicle to perform well in different racing conditions. The frame has been simplified in its design to minimize weight and assembly time, while still being a strong structure. The NDSU motorsports team is confident that the Formula car they have designed and begun to build will be competitive at the FSAE Michigan competition and our drivers are excited to compete and excel in all the racing events.



BRAKE : 2 Front 1 Rear Calipers, Custom CNC Cast Iron Rotors

BSCD : 95mm bore/72mm stroke/ 1 cylinder/ 510 cc

COOLING : Indian Scout Radiator, High-Flow Water Pump, Sidepod mounted

DRIVE : Chain Driven

ELECTRONICS : Custom CAN-BUS Driver Data Display, AEM Engine Management System

ENGINE : Turbocharged 525 KTM

FR/RR TRACK : 50/50 inches

FRAME : 1020 Steel

FUEL SYSTEM : Aluminum Gas Tank

FUEL TYPE : E85

MATERIAL : 1020 Steel, Carbon Fiber, Fiberglass, Aluminum

MPD : 8000

MPT : 6000

OLWH : 115 in., 58.5 in., 45.5 in.

SUSPENSION : Double A-Arm, Push-rod

TIRE : 18x6-10 R25-B

UNIQUE : Completely adjustable suspension, turbocharged

WEIGHT : 550

WHEELBASE : 65



United States

102

Duke Univ

Duke



The 2017 FSAE racecar for Duke University Motorsports represents a critical iteration of our 2016 competition design, bringing the vehicle closer to its full potential while providing the groundwork for establishing advanced driver assist systems. A robust paddle shifting system and real-time data telemetry giving steering angle data, wheel speed, and shock travel allow drivers to systematically improve lap times and for the team to make precise suspension tuning adjustments. A continued focus on weight reduction and subsystem optimization are realized in the newly designed aerodynamics package that both improves downforce while simultaneously signifies a ~45% reduction in weight. The vehicle features a steel space-frame, a four cylinder engine, and carbon fiber body work.



BRAKE : Wilwood 5/8" bore master cylinders, AP Racing Calipers, 0.56 pad friction

BSCD : 67.0mm/ 42.5mm/ 4 Cylinders/ 599cm³

COOLING : Water Cooled

DRIVE : 520 Motorcycle Chain

ELECTRONICS : ECU controlled relays, central fuse block, c125 Motec DAQ

ENGINE : Honda CBR600 f4i

FR/RR TRACK : RR (1334.7mm/ 52.5")

FRAME : Steel Spaceframe

FUEL SYSTEM : E Ltd PE3 ECU, (4) 195 cc/min RC Eng injectors, sequential

FUEL TYPE : 100 octane gasoline

MATERIAL : Steel, Aluminum, Carbon Fiber

MPD : 9500

MPT : 8000

OLWH : Length: 1981mm/78", Width:1367mm/53.8", Height: 1080mm/42.5"

SUSPENSION : Double unequal Length A-Arm, Pullrod, Actuated Spring with Ohlins TTX25 MkII

TIRE : 18 x 6.0 - 10 LCO Hoosier

UNIQUE : Paddle Shifters, Honeycomb core Aero Package, Real-Time Data Telemetry

WEIGHT : 504lb

WHEELBASE : 1524mm/60"



United States

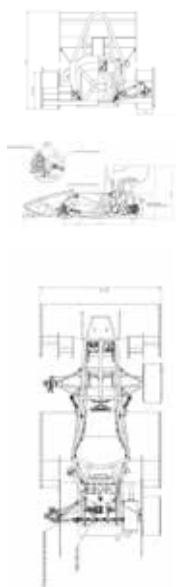
103 Univ of Central Florida Knights Racing



The University of Central Florida Formula SAE Team is proud to present KR17. KR17 defines a new era of car within Knights Racing with big changes including: moving to a smaller tire, constructing a full aero package, and a revamped power unit. With a focus on reducing weight and lowering CG across all subsystems KR17 is our strongest car to date.

We thank the University of Central Florida and all our sponsors, friends, and family for their generous support in building a car and making this program amazing.

GO KNIGHTS!



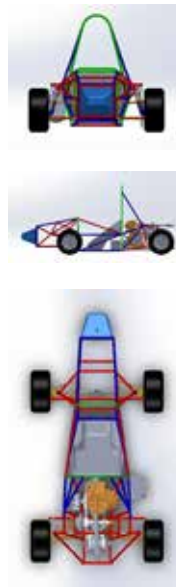
BRAKE : 4 wheel disk
BSCD :
COOLING :
DRIVE : Drexler LSD
ELECTRONICS : MoTec C125
ENGINE : GSXR 600
FR/RR TRACK :
FRAME : 4130 Space frame
FUEL SYSTEM : EFI
FUEL TYPE : 93
MATERIAL :
MPD :
MPT :
OLWH :
SUSPENSION : Pullrod /Pushrod
TIRE : 7.5-18.0 R25B
UNIQUE : First year aero. package.
WEIGHT : 580
WHEELBASE : 1549.4 / 61



104 Univ of Evansville Aces Racing



Ace's Racing is the Formula SAE team representing the University of Evansville in Evansville, Indiana. Currently, the team is led by 8 seniors overseeing other students in the Integrated Design Sequence. After having to withdraw from last year's competition due to failing to finish car in time, the current team is determined to recover. The vehicle is powered by a Polaris Sportsman 570cc engine using a CVT. The front of the 2016 frame was reused while the back was redesigned to simplify construction and component access. Anti-roll bars were added as well and incorporate with the overall suspension design using AFCO dampers. The body and undertray are constructed with a combination of carbon fiber and fiberglass composites. The focus of this year's team was to add to the work completed last year's team while adding needed improvements. The goal was to create a reliable car focusing on critical subsystems such as engine, frame, and drivetrain.



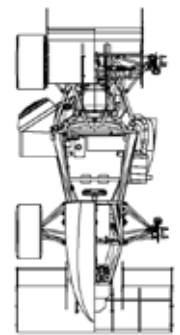
BRAKE : Wilwood Kart Master Cylinders PS1 calipers
BSCD : 3.9 in bore / 2.9 in stroke / 1 cylinder / 567 cc
COOLING : AFCO Radiator
DRIVE : Rear Wheel CVT
ELECTRONICS : PE3-ECU
ENGINE : Polaris 570
FR/RR TRACK : FR 1219.2 mm / 48 in RR 1219.2 mm / 48 in
FRAME : 4130 Normalized
FUEL SYSTEM : Stock 570 low pressure fuel system
FUEL TYPE : 93
MATERIAL : 4130 Normalized, Fiberglass, Carbon Fiber, aluminum
MPD : 7000
MPT : 6400
OLWH : L: 2439.16 mm / 96.03 in W: 1320.8 mm / 52 in H: 1260.6 mm / 49.63 in
SUSPENSION : AFCO Dampers, Double A-Arm
TIRE : 18.0 x 6.0-10 R25B
UNIQUE : Venturi Style Undertray
WEIGHT : 550 lbs
WHEELBASE : 1651 mm / 65 in





Gopher Motorsports presents the Go4-17. Our goals for 2017 focused around improving the aero package and increasing the reliability of electrical components, following a low finish in endurance in 2016 after driving over half of the event on two cylinders. A custom designed power distribution system will provide increased reliability and the ability to better monitor the performance of the electrical system. Revises in the aero package aerodynamics package resulted in a 45% increase in downforce.

Gopher Motorsports would like to thank the University of Minnesota as well as our many industry sponsors for their continued support. Their generous donations of time, products, and funding have allowed us to grow and achieve more success in recent years.



BRAKE : Custom rotors, Polaris MC, Wilwood calipers
BSCD : 65.5mm/44.5mm/4/600cc
COOLING : Side mounted radiator w/ fan
DRIVE : Modified transmission, chain drive, TRE differential
ELECTRONICS : MoTeC M600 and EDL3, student designed power distribution
ENGINE : Yamaha 2003-2005 YZF R6
FR/RR TRACK : 1232/1194mm, 48.5/47.0in
FRAME : Steel space frame w/ bonded sandwich panels
FUEL SYSTEM : Custom fuel rail, returnless system, dual cone injectors
FUEL TYPE : 93 Octane
MATERIAL : 4130 steel, carbon fiber/Nomex sandwich panels
MPD : 87 hp (11700 RPM)
MPT : 42 lb-ft (9800 RPM)
OLWH : 3048/1463/1195mm, 120.0/57.6/47.0in
SUSPENSION : Unequal length, non-parallel a-arms. pullrod front, pushrod rear
TIRE : Front: Hoosier 20.0x7.5-13 R25B, Rear: Hoosier 20.0x9.0-13 R25B
UNIQUE : Wide tires, center feed CFRP intake, student designed muffler
WEIGHT : 272 kg, 600 lb
WHEELBASE : 1600mm, 63in



UAEMEX racing team is the FSAE team from Universidad Autonoma del Estado de Mexico placed in Toluca, Mexico. Beginning in 2004, competed since 2006. Our team has three main goals performance, safety and simple engineering solutions. The '17 model UMXRT-106 is the result of all systems integration in order to produce a car that performs well across all dynamics events. Vehicle simulations were performed to evaluate a number of car parameters and these results was balanced between performance, maneuverability, and stability to select the final vehicle concept.

Thank you to our major sponsors for their support this year: UAEMEX, Fundacion UAEMEX, SolidWorks, Maplesoft and Altair.



BRAKE : Front Nissin Dual Piston and Rear Wildwood PS-1 Calipers
BSCD : 92mm Bore/ 62mm Stroke /1 cylinder/449cc
COOLING : Water Cooled Single Radiator
DRIVE : Chain Drive 520MXV/DAIDO
ELECTRONICS : Performance Electronics PE-ECU-1
ENGINE : YAMAHA YFZ450
FR/RR TRACK : 1220mm/1170mm
FRAME : Tubular Space Frame
FUEL SYSTEM : Single Injector and Bosch Fuel Pump.
FUEL TYPE : 93 Octane Gasoline
MATERIAL : 4130 Steel
MPD : 39HP@6500rpm
MPT : 26.2 Nm @6440 RPM
OLWH : 2350mm/1400mm/ 1200mm
SUSPENSION : Double Unequal Length A-ARM
TIRE : 18.0X6.0-10 R25B Hoosier
UNIQUE : Fuel injection student design
WEIGHT : 590lb
WHEELBASE : 1560mm



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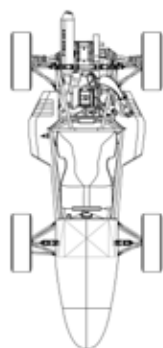
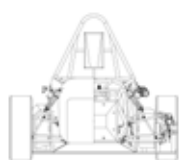
Universidad Central de Venezuela

Team Formula SAE-UCV



Some of the special features of the F-17 are: An uneven trapezoidal A-arms that ensemble the independent suspension system in each wheel, that allows different configuration using shims to change the camber of the vehicle.

For the Transmission, we have a modular design that can be manufactured fast and with a simple assembly and maintenance, using most of all Aluminum on the differential plates and also on the engine mounts. To get the most of our engine a Yamaha YZ-450F we are working now with new and more efficient materials, we have used the 3d printing technology for the throttle body and plenum, giving us, lighter pieces and more efficient shapes for the fluid to move on, as well as on the exit, so in this matter we decided to maintain the OEM exhaust from the bike, changing the route from the exhaust manifold to the silencer. For the aerodynamic package we have worked and developed the shape of past years so the force we get at high speed could be greater and help the car to maintain the contact with the floor while the drag coefficient drop down.



BRAKE :
BSCD :
COOLING :
DRIVE :
ELECTRONICS :
ENGINE : Yamaha YZF 450 2008
FR/RR TRACK :
FRAME :
FUEL SYSTEM : Fuel injection Denso OEM 23250-31090
FUEL TYPE : 93 to 100 octane
MATERIAL :
MPD : 7500
MPT : 6000 rpm
OLWH : 2975 mm / 1327 mm / 1152 mm
SUSPENSION : An uneven trapezoidal A-arms that ensemble the independent suspension system
TIRE :
UNIQUE :
WEIGHT : 600 lbs
WHEELBASE : 1600 mm



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Washington State Univ

Wazzu Racing



Wazzu Racing's focus for the year was to design and build a grade A team first and a grade B car second. Through organization, team structure, and documentation, Wazzu Racing has grown from taking 16 members to competition to having over 30 interested members dedicated to competing this year. This elevation in team performance has directly translated to an improved car from the past.

Having more members and more leads, we were able to plan more effectively in design, manufacturing and testing, and as a result this year's car was completed 3 months prior to last year's completion time. This extra time has been used to focus our efforts to testing our designs and validating their effectiveness and performance on the race track.

Wazzu Racing incorporated a CBR600RR engine coupled to a torsen limited slip differential for the powertrain, attached the wheels with double unequal length control arms and pushrod suspension, and modified steering rack to produce an affordable, reliable and attainable race car.

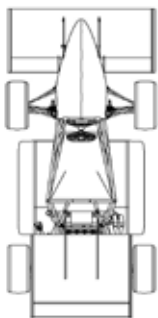
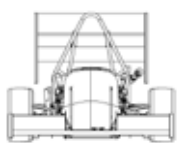


BRAKE : Willwood 4 piston GP320/solid rotor
BSCD : 2.64in/1.67in/4/599cc
COOLING : water to air tube fin heat exchanger
DRIVE : Taylor torsen differential
ELECTRONICS : megasquirt 2 V3.0
ENGINE : Honda CBR600RR
FR/RR TRACK : 49in/47.7in
FRAME : Steel tube space frame
FUEL SYSTEM : port injection
FUEL TYPE : 93 octane
MATERIAL : 1020 DOM tube
MPD : 10500 RPM
MPT : 9000 RPM
OLWH : 124in/57in/52in
SUSPENSION : SLA pushrod actuated dual A-arm
TIRE : R25B Hoosier 20.5x7x13"
UNIQUE : Carbon diffuser/adjustable pedal box
WEIGHT : 660 lb
WHEELBASE : 68in





For SAE Michigan 2017, Clemson Formula SAE presents Tiger19; a giant leap forward for our team. Tiger19 is CUFSAE's first car to feature 10" wheels, carbon fiber suspension, and a full aero package. By achieving our goals of aero package integration and 150km of testing, we hope to get top 30 this coming year in Michigan.



BRAKE : Floating rotor, AP Racing Calipers
BSCD : 67mm/42.5mm/4 cylinder/ 599cc
COOLING : Water cooling, single radiator
DRIVE : Drexler LSD, FWD (depends on orientation)
ELECTRONICS : MoTeC M150 ECU, Custom Arduino Dash
ENGINE : Honda CBR 600RR
FR/RR TRACK : 1220mm/1,207mm
FRAME : 4130 Tube Space Frame
FUEL SYSTEM : Aluminium fuel tank
FUEL TYPE : 93 Octane
MATERIAL :
MPD : 10000
MPT : 8000
OLWH : Length: 2,947mm Width: 1,425mm Height: 1,100mm
SUSPENSION : Double A-Arm Carbon Fiber Adjustable Suspension
TIRE : Hoosier 18.0x6.0-10 R25B
UNIQUE : Full aero
WEIGHT : 664
WHEELBASE : 1562



Polar Bear Racing is excited to present PBR16. The design philosophy of PBR16 was to build a racecar with strong fundamentals matched with competitive performance. Extra focus has been placed on reliability, serviceability, manufacturing quality, and design validation to ensure the car can achieve the team's goals.

The car features a new CFRP monocoque design that was focused on increasing chassis stiffness and improving quality. The car is powered by a Honda CBR600RR engine running on E85 and features a rapid prototyped intake, Drexler differential, and a custom power control module. A strong focus has been placed on data acquisition and as a result, the car is equipped with a wide range of sensors for both powertrain diagnostics and vehicle dynamics. The driver experience has also been vastly improved with adjustable pedals, a contoured CFRP seat, custom steering wheel grips, and a new driver interface.

PBR16 is sure to be Polar Bear Racing's fastest car yet and we are very excited to prove it!



BRAKE : Floating Cast Iron Rotors, Tilton Master Cylinders, Wilwood PS-1 Calipers
BSCD : 67mm/42.5mm/4/599cc
COOLING : Water Cooled
DRIVE : Rear Wheel Chain Drive
ELECTRONICS : AEM Infinity ECU, Custom Driver Interface, Custom Power Control Module
ENGINE : Honda CBR600RR
FR/RR TRACK : 1219mm (48in)/1118mm (44in)
FRAME : CFRP Monocoque
FUEL SYSTEM : Sequential EFI
FUEL TYPE : E85
MATERIAL :
MPD : 9500
MPT : 8000
OLWH : 3028mm, 1444mm, 1153mm
SUSPENSION : Pull-Rod Actuated Unequal Length SLA A-Arms w/ Anti-Roll Bars
TIRE : 18.0x6.0-10 R25B Hoosier
UNIQUE :
WEIGHT : 580 lb
WHEELBASE : 1619mm (63.74in)



111

Univ of Michigan - Ann Arbor

MRacing



The three R's of MRacing:

Refinement
Reliability
Really Fast

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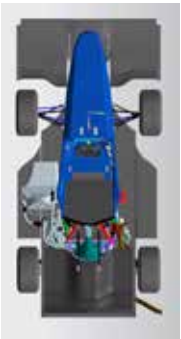
Ferris State University

Ferris Formula SAE



The 2017 Bulldog Racing FFR11 represents the latest evolution of the Ferris Formula SAE Team's racing vehicle platform. A renewed focus on powertrain testing and tuning has given this year's team a deeper understanding of engine operating parameters as they relate to powertrain output and responsiveness. In addition, further revisions to vehicle control systems have been implemented based on feedback from operators of the Bulldog Racing FFR10.

Bulldog Racing would like to thank its many sponsors and supporters for their generous contributions to the team's 2017 competition effort.



BRAKE : 4 rotors, 6 calipers, 1 A.N.D.Y
BSCD : 67mm bore, 42.5mm stroke, 4 cylinders, 599cc displacement
COOLING : Water cooled
DRIVE : Drexler Differential
ELECTRONICS :
ENGINE : Honda CBR600RR
FR/RR TRACK : 47.5 in front, 46.5 in rear
FRAME : Bi-coque
FUEL SYSTEM : Hydramat
FUEL TYPE : 93 octane
MATERIAL : A lot of carbon fiber because it is super stiff and pretty strong
MPD : 80 HP
MPT : 45 ft-lb
OLWH : 115L, 56W, 46H in
SUSPENSION : Double wishbone
TIRE : 10" Hoosier LC0
UNIQUE :
WEIGHT : 550 lb
WHEELBASE : 60.5 in



BRAKE : Outboard Cast Iron Disc Brakes, Fixed Calipers with Bias Adjustment
BSCD : 67mm / 42.5mm / 4 / 599cc
COOLING : Aluminum 37-Core Radiator with Dual Electronic Cooling Fans
DRIVE : Chain-Driven Rear Axle via Clutch-Type Limited Slip Differential
ELECTRONICS : Performance Electronics PE3 ECU, Integrated CBR600 Instrument Panel
ENGINE : Honda CBR600RR
FR/RR TRACK : 1143mm/45in, 1143mm/45in
FRAME : 4130 Steel Space Frame
FUEL SYSTEM : Sequential Multiport Fuel Injection
FUEL TYPE : 93 Octane
MATERIAL : Winning Material
MPD : 11,500 RPM
MPT : 10,000 RPM
OLWH : 2910mm/115in, 1321mm/52in, 1156mm/46in
SUSPENSION : Double Wishbone Pushrod Suspension, Coilover Springs and Air Dampers
TIRE : 13" x 7" x 20.5" Hoosier R25B
UNIQUE : Student-Machined Suspension Components
WEIGHT : 680 lbs
WHEELBASE : 1524mm/60in



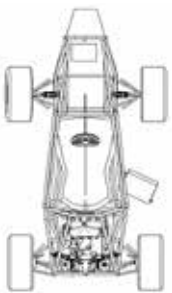
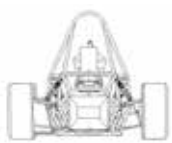
113 Central Michigan Univ Chippewa Racing



Chippewa Racing is proud to present CR-17. Being a third year team we are continuing improvements within all sub-assemblies of the vehicle, Chippewa Racing has been able to achieve a 60lb weight reduction while sustaining reliability. Additionally, the team has been able to reduce the total track width by 7-inches from the previous year as well as incorporating pneumatic shifting and data acquisition sensors to assist with an understanding of vehicle dynamics.

The entire Chippewa Racing team would like to thank our school and sponsors for their continued support, for without them, our continued growth of knowledge would not be possible.

FIRE UP CHIPS!



BRAKE : Hub Mounted 9in Dia. 1018 Floating Rotors, Brembo P34 Calipers
BSCD : 67mm/42.4mm/4cyl/599cc
COOLING : Side Mounted Radiator
DRIVE : Chain-Taylor Racing Differential
ELECTRONICS : Microsquirt v3
ENGINE : Yamaha R6R
FR/RR TRACK : 49in, 47in (1245mm/1194mm)
FRAME : Mild Steel Spaceframe, Tig Welded
FUEL SYSTEM : Semi-Sequential Fuel Injection
FUEL TYPE : 100 Octane
MATERIAL : Carbon Fiber, Steel, Aluminum, Titanium, Magnesium
MPD : 87 hp (12,500)
MPT : 47 ft*lb (10,000)
OLWH : 105in, 59in, 46in (2667mm, 1499mm, 1168mm)
SUSPENSION : Double Unequal Length A-Arm, Push-rod actuated
TIRE : 20x7.5-13 Hoosier R25B
UNIQUE :
WEIGHT : 620lbs
WHEELBASE : 61in



114 Florida Inst of Tech Florida Institute of Technology



Florida Tech Formula Motorsports (FTFM) is composed of 30 students from across the globe dedicated to the development of the FSAE program at FIT through building not only a better vehicle but a better team. We are committed to producing a successful cutting edge vehicle in timely and professional manner. The FP-17 is a evolution of the FP-16 with the main focus of increasing reliability and reducing weight. While this has been our focus for the past four years the FP17 team has been achieving these goals by remodeling the team structure, and following an aggressive schedule that FTFM has never seen before.

Our team is excited to continue our partnership with The Scott Center for Autism Treatment so that we may continue to produce a vehicle dedicated to raising awareness.

Finally, We know that none of this would not be possible without the hard work and dedication of our alumni teams who have provided us with a strong foundation since 2013. We would like to extend a special thank you to our alumni, friends, families, advisers, sponsors, and Florida Tech for their unwavering support and allowing us the opportunity to represent them at competition.



BRAKE : Floating 9" Rotors, Wilwood Master Cylinders
BSCD : 67mm/ 42.5mm/ 4 cylinders/ 599cc
COOLING : Side Mounted Radiator
DRIVE : 520 pitch chain driven via stock gear box
ELECTRONICS : Motec M400, Custom Dash
ENGINE : Honda CBR 600RR
FR/RR TRACK : 25in/24.6in
FRAME : Steel Space Frame
FUEL SYSTEM : Denso port sequential injection system
FUEL TYPE : 93 Octane
MATERIAL : 4130 Steel
MPD : 12,500
MPT : 8,100
OLWH : 109in/46in/57in
SUSPENSION : Double unequal A-Arm, push-rod actuated spring and damper
TIRE : 20.5x7.0-13, R25B Hoosier
UNIQUE : Carbon fiber intake and suspension
WEIGHT : 650
WHEELBASE : 64 in



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Universidad Simon Bolivar

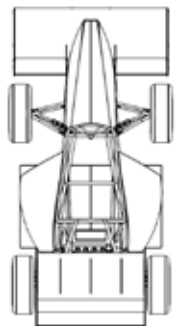
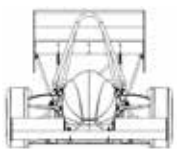
F-SAEUSB



FSAE USB Team is proud to introduce our 2017 prototype to the Formula SAE Michigan Competition. This year marks the 16th car designed and built since 2002.

This year's design is based mainly on the experience and technology from previous cars. By analyzing their performances, we've concluded that in order to be successful in competition, consistency is key. This means being able to score very well on every event, static or dynamic. This is why in order to fulfill our objectives for this year we have emphasized on three crucial points of our design philosophy such as Achievability, Reliability and Functionality. Through this approach, we have been able to maximize our team's strengths such as effective and creative problem solving and the ability to adapt to new circumstances in order to overcome difficult challenges. By adopting this philosophy, we've been able to achieve many of our goals, such as finalizing the construction phase earlier than expected.

We would like to thank all of our sponsors and faculty advisors for their constant support throughout the year. We look forward to representing them with a top performance in the competition. Come and visit us at our paddock!



BRAKE : Outboard, Floating, gray cast iron, hub mounted, 215 mm OD. Drilled
BSCD : 67 mm/42.5 mm/4 cyl/599 cc
COOLING : One single pass, aluminum radiators with inlet/outlet duct and no cooling
DRIVE : Drexler Differential
ELECTRONICS : ECU PE3, Dashboard, Traction and Launch Control
ENGINE : Honda CBR600 F4i cylinders
FR/RR TRACK : 1244 mm / 1194 mm
FRAME : Space Frame
FUEL SYSTEM : Electronic fuel injection
FUEL TYPE : 100 Octane
MATERIAL : 4130 Round Steel Tubing
MPD : 11.500 rpm
MPT : 7.800 rpm
OLWH : 2987 mm, 1463 mm, 1200 mm
SUSPENSION : Double Unequal length A-Arms. Push rod actuated
TIRE : Front 7.0 in and rear 7.5 in
UNIQUE : Brakes calipers and rotors are design and built by the team
WEIGHT : 290 Kg w/driver
WHEELBASE : 1550 mm



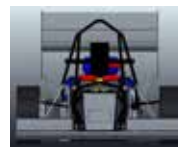
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South Dakota State Univ

Wild Hare Racing



WHR17 is the latest vehicle produced by SD State FSAE. This year the design revolved around our Vehicle Dynamics Simulation. The suspension and body designs were done as to maximize the grip of the tires through the use of this process. Maximum power and torque were squeezed out of the engine and coupled with our traction control system to keep the car hooked.



BRAKE : outboard steel disc
BSCD : 67mm/42.5mm/4 cyl/ 599cc
COOLING : Single radiator water cooled
DRIVE : Rear-wheel chain driven
ELECTRONICS : Motec ECU, traction control, onboard diagnostic dash
ENGINE : Yamaha R6
FR/RR TRACK : 51" Front 50.5" Rear
FRAME : TIG welded 4130 chromolly
FUEL SYSTEM : EFI
FUEL TYPE : E85
MATERIAL : chromolly chassis with aluminum and composite bodywork and suspension
MPD : 1336 Lance-power@ 10500
MPT : 55 ft-lb @9800
OLWH : 122"x47.25"x58"
SUSPENSION : Double wishbone a-arm with anti-roll bars
TIRE : Hoosier 13x7 R25B
UNIQUE :
WEIGHT : 600 lb
WHEELBASE : 63"



117 Texas Tech Univ Red Raider Racing



Red Raider Racing looks to improve on last year's success by focusing on making several improvements to the manufacturing process, making the car easier to manufacture without sacrificing build quality or driving performance. In addition, the team has taken special care to make sure all major components are easily accessible, and maintenance can be performed at a minimal of effort.

We would like to thank our sponsors for their generous support this season.

Good luck to everyone. Wreck 'em Tech!



BRAKE : Wilwood PS-1 Aluminum, 1.25 in piston in front, 1 in piston in rear
BSCD : Bore:102mm, Stroke: 80 mm, Cylinders: 1 cylinder, Displacement: 654 cc
COOLING : Single aluminum radiator
DRIVE : ATV Chain Drive
ELECTRONICS : PE3 ECU
ENGINE : KTM 690
FR/RR TRACK : F 1143 mm, R 1092.2 mm
FRAME : Tubular Space Frame
FUEL SYSTEM : Bosch 39 lb/hr injector
FUEL TYPE : 93 octane
MATERIAL : 4310 Chromoly Steel
MPD : 8000
MPT : 6500
OLWH : L 2464 mm, W 1334 mm, H 1092 mm
SUSPENSION : Independently sprung through bellcrank with anti-roll bar
TIRE : Hoosier 18.0x6.0-10 R25B
UNIQUE : GPS Speedometer
WEIGHT : 650 lb
WHEELBASE : 1549.4 mm

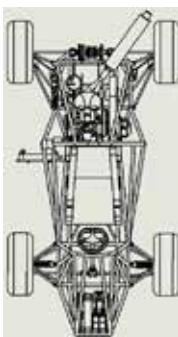
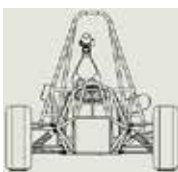


118 Bradley Univ Bradley Motorsports



The main goal of Bradley University's 2017 Formula Racing program is to reduce vehicle weight while improving safety and reliability. Substantial redesigns have been made to improve suspension performance while keeping the system highly adjustable and minimizing weight increases. The front suspension system was changed from push rod to direct actuation while the rear suspension was kept as a push rod system. Stiffer springs were implemented to improve ride characteristics. Along with these redesigns, significant improvements have been made to the cooling and intake systems as well as the ECU programming. Our design focus is to provide a effective and reliable vehicle.

We would like to thank our numerous sponsors as well as Bradley faculty and staff for their time and donations.



BRAKE : Wilwood 5/8" bore master cylinders, Wilwood Dynapro calipers,
BSCD : 499.99cc
COOLING : Single Radiator Electronic Fan
DRIVE : CVT
ELECTRONICS : Microsquirt
ENGINE : Yamaha 500cc Phazer
FR/RR TRACK : 1220/1230 mm
FRAME : 4130 Chromoly
FUEL SYSTEM : Indirect fuel injection
FUEL TYPE : 93-octane
MATERIAL : Carbon-fiber body and intake
MPD : 11250
MPT : 9000
OLWH : 3129, 1435, 1275
SUSPENSION : Front direct actuation with equal A-Arms, rear push rod with unequal A-Arms
TIRE : 20.5 x 7-13 R25B Hoosier
UNIQUE :
WEIGHT : 627.3 lb
WHEELBASE : 1675 mm



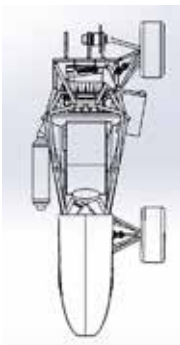
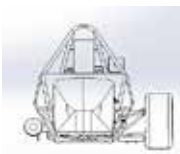
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Northern Illinois Univ

NIU Formula SAE



The Huskie Racing Team presents the HRT17. With refined suspension, and an easily removable rear plate for quick engine swaps. Running a Yamaha YZF-R6 with our refined suspension, our goal was to improve the drive-ability. In addition parts were designed for manufacturability, as well as weight reduction.



BRAKE : Wilwood Calipers / Ap Master Cylinders / Floating Steel Rotors
BSCD : 67 mm, 42.5 mm, 4 Cylinders, 599cc
COOLING : Yes
DRIVE : Chain Driven Helical Limited Slip
ELECTRONICS : MegaSquirt MS3X
ENGINE : Yamaha YZF-R6
FR/RR TRACK : 48 / 47 in
FRAME : Chromoly Spaceframe
FUEL SYSTEM : Sequential Multi-Port EFI
FUEL TYPE : 93
MATERIAL : 4130 Chromoly
MPD : 12500
MPT : 10500
OLWH : 104 in, 55 in, 40.5 in
SUSPENSION : Double A-Arm, Pullrod Actuated Coilovers
TIRE : Hoosier LC0 6.0/18.0-10
UNIQUE : Easily removable engine mounting
WEIGHT : 650 Lbs
WHEELBASE : 62 in



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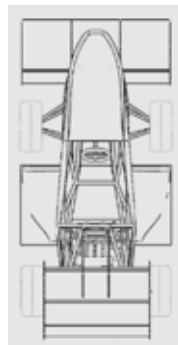
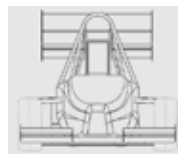
Oakland University

Grizzlies Racing



The 2017 season has brought the Oakland University Formula SAE team to a new level. Achieving a top 10 finish in the Endurance Event would mark a huge success for the 2017 season. With several new and improved designs in various vehicle systems, we have put a major focus on manufacturing, reliability, improved handling. New designs and manufacturing techniques helped reduce costs and improve the precision of components compared to previous years. Components have also been redesigned to ensure reliability and safety for both the vehicle and driver. The team has also incorporated a full aero package which is brand new to the team but has been in development for 3 years. This will drastically help improve the vehicles handling and provide the team with another subsystem that will be improved throughout the years to come.

The Oakland University Formula SAE Team would like to thank all of our sponsors and faculty for supporting us and advancing us as engineers. Without them this team and project would not be possible.



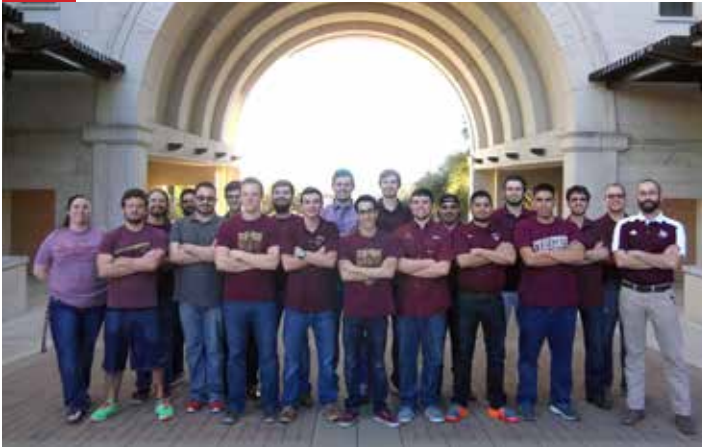
BRAKE : ISR
BSCD : 67.0mm / 42.5mm / 4 / 600cc
COOLING : Single Radiator
DRIVE : Chain driven torsen differential
ELECTRONICS : MegaSquirt 3 w/DAQ
ENGINE : Honda CBR 600 RR
FR/RR TRACK : 49" / 47"
FRAME : Steel Tube
FUEL SYSTEM : Port injected
FUEL TYPE : 93
MATERIAL : 4130 Steel round and square tube
MPD : 80 hp
MPT : 40 ft lbs
OLWH : 2884 / 1400 / 1218 (mm)
SUSPENSION : Direct Acting 4-Corners
TIRE : 13" Continental C16
UNIQUE : Top mounted rear wing
WEIGHT : 650 lbs
WHEELBASE : 61"



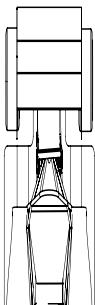
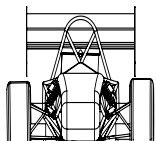
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Texas State University-San Marcos

Bobcat racing



Bobcat Racing is first year team competing at FSAE. Running a 3 cylinder Triumph Daytona 675R motor as per the new rules, Willwood brakes, custom rotors and uprights, and space frame. The design focuses on simplicity and ease of manufacturing to allow for higher chance of success and more time to tune the engine. Doing this also resulted in a lower necessary budget to make raising the funds for the first year team that much easier.



BRAKE : Willwood PS-1
BSCD : 3-Cylinder 675cc
COOLING :
DRIVE : Chain Drive
ELECTRONICS : Megasquirt 3
ENGINE : Triumph Daytona 675R
FR/RR TRACK : 48in
FRAME : Spaceframe
FUEL SYSTEM :
FUEL TYPE : Gasoline
MATERIAL : 4130N
MPD :
MPT :
OLWH :
SUSPENSION : Double wishbone, pushrod
TIRE :
UNIQUE :
WEIGHT :
WHEELBASE : 67in



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Penn State Univ - University Park

Penn State Racing



Penn State Racing is a student run organization that takes pride in being able to say that we build 90% of the car in house. It is through the motivation, dedication, and hard work of our members that we are successful at competition.

We would also like to thank our sponsors for the continued support of Penn State Racing.



BRAKE : Floating, Durabar G2 Cast Iron, Hub Mounted
BSCD : 67 mm Bore, 42.5 mm Stroke, 4 Cylinders, 599 cc
COOLING : Single Sidepod Mounted 1 L Capacity
DRIVE : 520 Chain
ELECTRONICS : Motec CDL3 Dash and PE3 ECU
ENGINE : Yamaha R6R
FR/RR TRACK : 1183.6 mm, 1117.6 mm
FRAME : 4130 Chromoly Steel Tube
FUEL SYSTEM : Sequential Fuel Injection
FUEL TYPE : 100 Octane Gasoline
MATERIAL : Carbon Fiber, Steel, Aluminum, Titanium
MPD : 13,500 rpm
MPT : 10,000 rpm
OLWH : 2995 mm Long, 1471 mm Wide, 1210 High
SUSPENSION : Pullrod Suspension
TIRE : 18x7.0-10 R25B Hoosier
UNIQUE : Pneumatic Shifting System
WEIGHT : 600 lbs
WHEELBASE : 1524 mm



123

Queen's Univ - Ontario Canada

Queen's Formula



The Q17 vehicle represents the culmination of 5 years of continuous improvements in vehicle dynamics, powertrain, and driver ergonomics. With testing and tuning as large development goals, the team has focused on building a car that can provide large variances in vehicle dynamics performance. This includes an 8-way adjustable front ARB, 3-way adjustable roll centers, multiple levels of Ackermann steering, and a quick change differential mounting system. The exhaust system was re-designed for new regulations, while the new variable runner length intake will help flatten the torque curve. Changes were made to improve cooling system performance using data collected on the 2016 vehicle. The electrical system was updated with the introduction of a custom dashboard, CAN bus system, and multiple custom PCBs controlling various systems. The frame design and control placements were modified to improve driver comfort, without increasing overall vehicle weight. Further systems, including aerodynamics, steering and electrical were updated to reflect issues faced with the 2015 vehicle, primarily ease of assembly, troubleshooting, and durability. The resulting Q17 vehicle will showcase increased reliability, performance, and refinement over the outgoing model. The improvements in vehicle dynamics and powertrain will significantly increase the competitiveness of the vehicle, while the careful consideration of assembly methods and serviceability ensure any trackside adjustments can be completed quickly and easily.



BRAKE : Floating Rotors, Tilton Masters, AP Racing Calipers

BSCD : 67 mm/42.4 mm/4/599 cc

COOLING : Single Side Mounted Radiator w/ Fan

DRIVE : Chain Drive, KAAZ LSD

ELECTRONICS : PE3, DL1, CAN bus

ENGINE : Honda CBR 600 F4i

FR/RR TRACK : 1250 mm/1225 mm

FRAME : Chromoly Space Frame

FUEL SYSTEM : Sequential Fuel Injection

FUEL TYPE : 93 Octane

MATERIAL : Carbon Fiber Body panels

MPD : 80 HP @ 10500 RPM

MPT : 45 LBS-FT @ 7500 RPM

OLWH : 2920 mm, 1425 mm, 1180 mm

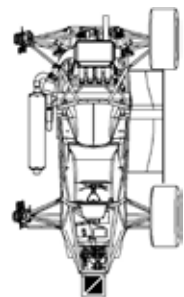
SUSPENSION : Double Unequal Length Carbon A-Arms, Pull Rod Front, Push Rod Rear

TIRE : 20.0x7.5-13 R25B

UNIQUE : Variable Runner Length Intake, Electronic Clutch, Adjustable Roll Centers

WEIGHT : 625 lbs

WHEELBASE : 1550 mm



Canada

124

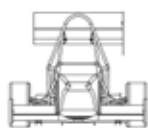
North Carolina State Univ - Raleigh

Wolfpack Motorsports



Wolfpack Motorsports would like to present WMF-17. This year's car features an optimized tubular steel space frame chassis. Our suspension features an all new carbon-fiber tube construction. The aero package is more aggressive than last year's, adding more downforce. The car features a new custom steering rack, custom carbon fiber steering wheel, and electronic shifting. The car is powered by a Honda CBR 600 F4i motor with custom intake and exhaust systems. The car also features a dual radiator setup thanks to AKG.

We would like to thank NC State, RCR, B/E Aerospace, Digital Design, and Hydro Tube for all the support this year.



BRAKE : AP Racing Calipers, Tilton Master Cylinders, Floating Rotor

BSCD : 66mm/43mm/4cyl/599cc

COOLING : Dual side mount radiators

DRIVE : Chain

ELECTRONICS : MoTeC M400 and ADL

ENGINE : Honda CBR 600 F4i

FR/RR TRACK : 48.2/48 (inches)

FRAME : Tubular steel spaceframe

FUEL SYSTEM : Fuel injection

FUEL TYPE : 100 Octane

MATERIAL : 4130 chromoly steel

MPD : 84.7 hp @ 10500 rpm

MPT : 44.8 ft-lb @ 9000 rpm

OLWH : 116.8/56.4/43.7 (inches)

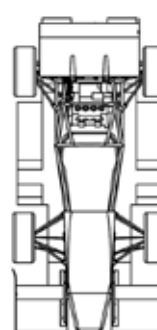
SUSPENSION : Unequal length composite A-Arms, Pullrod Front, Pushrod Rear

TIRE : 18.0" X 6.0" Hoosier LCO

UNIQUE :

WEIGHT : 600 lb w/ 150 lb driver

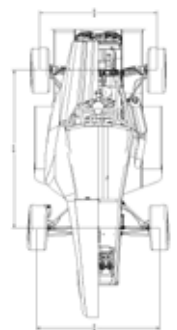
WHEELBASE : 61 (inches)



United States



At Husker Motorsports, we aim to produce a vehicle that pushes the limits of our engineering abilities. These competition vehicles must not only perform well and be durable but must also show a high level of craftsmanship and aesthetic appeal. Our latest vehicle, HMS-06 has all of these qualities and more.



BRAKE : Four Wheel Disc Brakes
BSCD : 636cc 4 cylinder
COOLING : Mechanical Water Pump
DRIVE : Chain Drive
ELECTRONICS : MS3Pro
ENGINE : Kawasaki
FR/RR TRACK : 48/46
FRAME : Spaceframe
FUEL SYSTEM : Fuel Injection
FUEL TYPE : E85
MATERIAL : Steel Tube
MPD : 11000
MPT : 9000
OLWH : (3403/134),(1372,54),(1117,44)
SUSPENSION : Double A-Arm
TIRE : 18.0 x 6.0-10 Hoosier
UNIQUE : Rear Radiator
WEIGHT : 600lb
WHEELBASE : 1569/62



2017 FORMULA SAE **KEY PLAYERS**

There is a large group of individuals who make sure the numerous details are completed to make a successful event.

SAE INTERNATIONAL STAFF

- Bob Sechler – Manager, Education Relations
- Kaley Zundel – Collegiate Program Manager
- Sam Barill – Collegiate Program Manager
- Martha Tress – Recruitment Sales Manager
- Amanda Paciorkowski – University Programs Developer
- Sara Guffey – University Programs Coordinator

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- Kathleen McDonald and Larry McDonald

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- Autocross – Matt Kalmus, Corry Johnson and Costi Shami
- Brake & Switch Test – Alba Colon and Mark Scott
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- Dynamic Gate Manager – Dave McCagg
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- Stewards – Mike Thodoroff
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- Timing/Scoring – Steve Sayovitz, Zach Mendla, Diane Arthur, Matt Fein and Dave Chegash
- Tilt Table – Alba Colon, Mark Scott and Vince Bandurski
- Track Announcer/MC – Raleigh Boreen and Velma Boreen
- Volunteer Registration & Information – Sue Coppa
- Welding – Carl Occhialini

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WILLIAM R. “BILL” ADAM

Formula SAE Vehicle Development Grant



St Cloud State University, Husky Formula Racing

Team members include:

Front Row: Jake Knapper, Nyia Xiong, Johnathan Garcia (President), Ali Albahrani, Dr. Kenneth Miller (Advisor), Thaddeus Stasney, Joshua Hall, Levi Wahl **Back Row:** Tim Goodner (Advisor), Tim Byman, Jack Bunnell, Jacob Hartman, Jon Byman, Dan Alfveby, Joe Sullivan, Luke Jurmu, Edgar Prada, Sabrina Storms, Brad Frassel **Members not pictured:** Jaushua Fiting, Tariq Abdul-Quddoos, Joey Saetviet, Rebecca Wehe

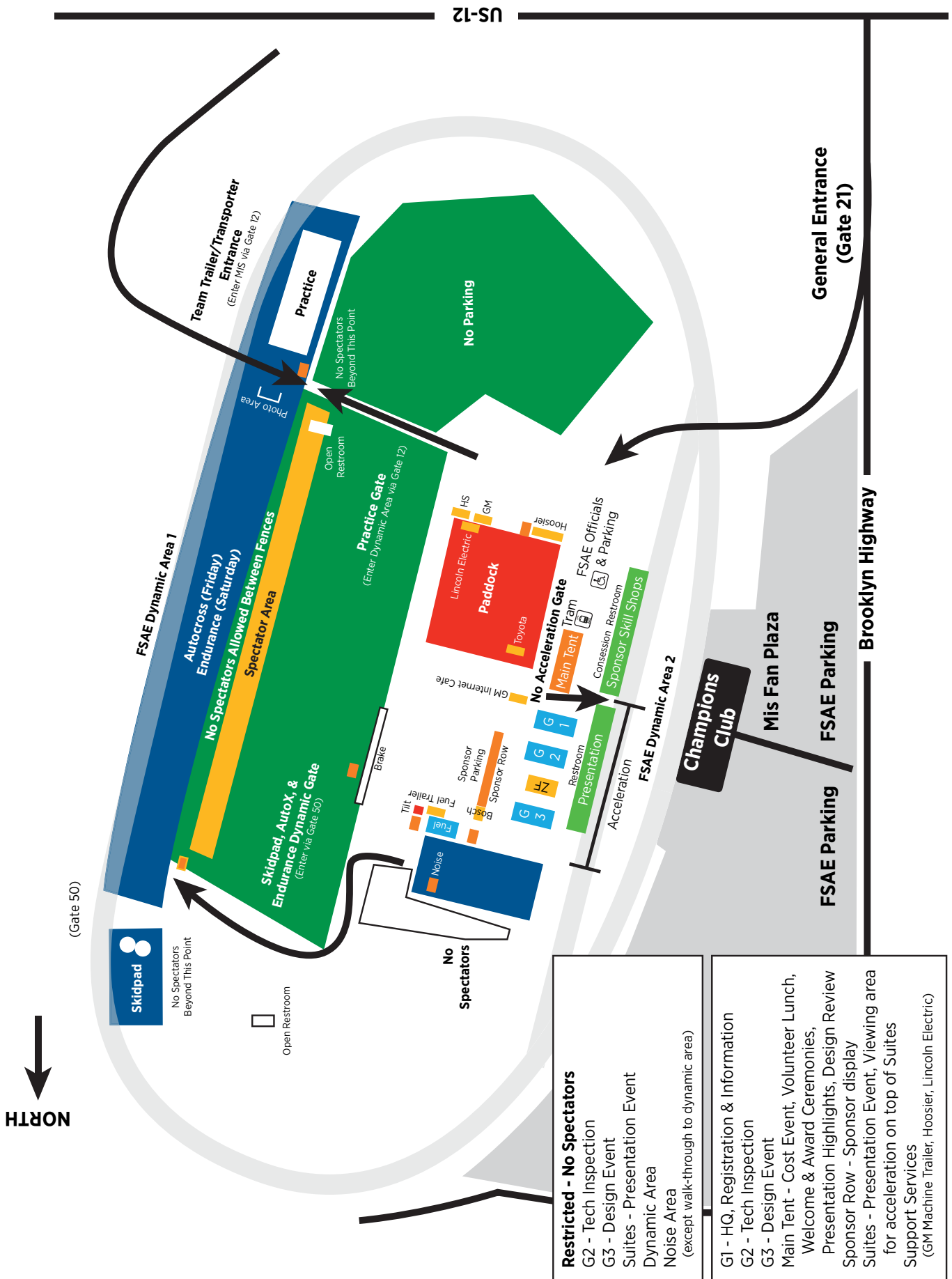
This award honors Bill Adam, his extraordinary contribution to FSAE, and his lifelong dedication to mentoring young engineers.

Established in 2004, this annual grant is administered by SAE with applications being reviewed by the family of Bill Adam. The selected team receives a \$500 grant to be applied toward the development of their vehicle.

To learn more about this award and other exciting opportunities, please visit students.sae.org

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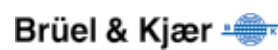
BRONZE PARTNERS



POLARIS



FRIEND OF FORMULA



OFFICIAL EVENTS

FORMULA SAE MICHIGAN

May 10 - 13, 2017

Michigan International Speedway, Brooklyn, Michigan

FORMULA SAE LINCOLN & FORMULA SAE ELECTRIC

June 21 - 24, 2017

Lincoln Airpark, Lincoln Nebraska

FORMULA SAE AUSTRALASIA

First Competition - 2000

Website: www.saea.com.au/formula-sae-a/

FORMULA SAE BRASIL

First Competition - 2004

Website: www.saebrasil.org.br/eventos/programas_estudantis/

FORMULA SAE ITALY

First Competition - 2005

Website: www.ata.it/content/event-formula-ata/formula-sae-italy-formula-electric-italy-2015

FORMULA STUDENT

First Competition - 1998

Website: www.formulastudent.com/

FORMULA STUDENT AUSTRIA

First Competition - 2009

Website: www.fsaustria.at

FORMULA STUDENT GERMANY (FSG)

First Competition - 2006

Website: www.formulastudent.de/

FORMULA SAE JAPAN

First Competition - 2003

Website: www.jsae.or.jp/formula/en/

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