Welcome

As engineering dean of the hosting institution, it is a pleasure to welcome all of you to Auburn University and the 2006 SAE Mini Baja East competition.

SAE student competitions capture the essence of engineering by providing students with an opportunity to test what they have learned in the classroom with all of the challenges of a complex, team-based design project. Your involvement in this week’s competition paves the way for the future of engineering and the new technologies that will help to ensure the continued success of our economy and of the nation.

In preparing for this competition, Auburn engineering students took on a hands-on project of their own, with the design and construction of a challenging competition course located at the site of the AU National Center for Asphalt Technology test track. I believe you will enjoy the fruit of their labor, and wish you much success.

The Samuel Ginn College of Engineering represents Alabama’s largest engineering program with a rich heritage of excellence and a bold vision for the future. With degree options ranging from traditional engineering areas such as civil and chemical to cutting-edge programs such as the nation’s only undergraduate degree in wireless engineering, we pride ourselves in growing engineers that are creative and hardworking.

While you are in the Auburn-Opelika area, we invite you to learn more about our history, our program and our campus. Again, we are excited to be part of this competition. I encourage you to work hard, enjoy the challenge, but most importantly to have a great time.

Best wishes,

Larry Benefield
Dean, Samuel Ginn College of Engineering

Contents

Welcome 2
SAE/Baja Overview 3
Scoring 4
Organizers 5
Awards 6
Sponsors 8
Teams 10
Schedule of Events 13
2006 SAE Mini Baja Maps
Locations 14
Static Events 15
Control Zone 16
Endurance Course 17
Dynamic Events 17
What is SAE?

The Society of Automotive Engineers (SAE) is a non-profit educational and scientific organization dedicated to advancing mobility technology to better serve humanity. More than 89,000 member engineers and scientists develop and distribute technical information on all forms of self-propelled vehicles including automobiles, trucks and buses, off-highway equipment, aircraft, aerospace vehicles, marine, rails and transit systems.

Each year, SAE hosts a variety of intercollegiate design and race competitions ranging from off-road Baja to Formula SAE racing to Aerodesign. These collegiate design competitions put classroom training into action by challenging students to design build and test the performance of a real vehicle in a competitive environment.

What is SAE Mini Baja?

SAE Mini Baja consists of three regional competitions that simulate real-world engineering challenges. Students are tasked to design, build and race an off-road vehicle that will survive the severe punishment of rough terrain and, in the East competition, a deep-water pond.

The object of the competition is to provide SAE student members with a challenge that mirrors the steps involved in introducing a new product into the marketplace – from design to engineering to production to marketing. Teams compete against one another to have their design accepted for manufacture by a virtual firm. Students have to function as a team to design, build, test, promote and race a vehicle within the limits of the rules, and also to generate financial support for their project while managing their educational priorities.

Scoring

**Static Events – 300 points**

- Design Report
  - 100
- Engineering Evaluation
  - 150

**Cost**

- Report
  - 10
- Production Cost
  - 40

**Dynamic Events – 700 points**

- Acceleration
  - 60
- Log Pull
  - 60
- Water Maneuverability
  - 60
- Land Maneuverability
  - 60
- Suspension & Traction
  - 60
- Endurance Race
  - 400

**Total Points**

- 1000
Organizers

SAE
SAE Educational Relations Manager         Bob Sechler
SAE Mini Baja Program Manager             Sam Barill
Formula SAE Manager                       Steve Daum
Registrar                                   Jessica Culter
Registrar                                   Kaley Shellhammer

Auburn University
Chief Organizer                            Peter Jones (Mechanical Engineering)
Co-Organizer                                Jim Killian (College of Engineering)
Woodlands Coordinator                      Cheryl Cobb (College of Engineering)
Construction Coordinator                   Hugh Fellows (College of Engineering)
Graphics Coordinator                       Aileen Broaddus (College of Engineering)
Hospitality Coordinator                    Merrette Ische (College of Engineering)
IT Coordinator                             Mike Zieman (Digital Engineering Solutions)
Network Coordinator                        Steve Henderson (College of Engineering)
Co-Network Coordinator                     Zeb Whitehead (College of Engineering)
Volunteer Coordinator                      Karen Nesbitt (College of Engineering)
Co-Volunteer Coordinator                   Renee Dohn (BellSouth)
NCAT Liaison                               Buzz Powell (NCAT)
Traffic Management                          Josh Jones (Industrial Engineering)
Chief Technical Inspector                  Adam Hussemann (Honda Alabama)
Scorekeeper                                 Rick Parisi (Honda Alabama)
Referee                                    Jason Rounds (Honda Alabama)
Chief Design Judge                         Eric Theroux (American Iron and Metals Co.)
Acceleration Captain                       Rachel Weatherly (Wireless Engineering)
Log Pull Captain                           Marc Jarmulowicz (Aerospace Engineering)
Water Maneuverability Captain              Emily Johnson (Redstone Arsenal)
Land Maneuverability Captain               Taylor Owens (Mechanical Engineering)
Suspension & Traction Captain              Jeremy Belcher
Endurance Race Captain                     Darrell Krueger (Mechanical Engineering)
Announcer                                  Michael Royce (Albion Assoc., LLC)

2006 SAE Baja East Awards

Static Event Awards
Engineering Design Award – 1st, 2nd, 3rd
Presented by Honda Research and Development
Cost Award – 1st, 2nd, 3rd
Presented by Honda Research and Development
Technology Innovation Award—Top effort to incorporate practical new technology
Presented by Digital Engineering Solutions

Dynamic Event Awards
Acceleration Award – 1st, 2nd, 3rd
Presented by Mercedes-Benz U.S. International
Log Pull Award – 1st, 2nd, 3rd
Presented by RSC
Water Maneuverability – 1st, 2nd, 3rd
Presented by Emily Johnson
Land Maneuverability Award – 1st, 2nd, 3rd
Presented by Digital Engineering Solutions
Suspension and Traction Award – 1st, 2nd, 3rd
Presented by Alfa
Endurance Award – 1st, 2nd, 3rd
Presented by Honda Research and Development

Overall Award
1st, 2nd, 3rd, 4th, 5th – Top five overall scores
Presented by Briggs & Stratton and the Samuel Ginn College of Engineering

Special Awards
Dirtiest endurance driver
Presented by Auburn Mini Baja
Team that traveled the longest
Presented by Auburn Mini Baja
Team that slept the least
Presented by Auburn Mini Baja
Sponsors

Thanks to all of the sponsors who made this event possible.

National - 2006 SAE Mini Baja

Platinum
Briggs & Stratton

Gold
Honda
Polaris
Caterpillar

Silver
Alienware

Competition - 2006 SAE Mini Baja East

Overall
Samuel Ginn College of Engineering
National Center for Asphalt Technology

Events
Acceleration - Mercedes Benz
Log Pull - RSC
Water Maneuverability - Emily Johnson
Land Maneuverability - Digital Engineering Solutions
Suspension and Traction - Alfa

Saturday Banquet
Meru
Cingular Wireless

Registration
Ted and Cynthia Achorn

Thursday Lunch
Briggs & Stratton

Friday Lunch
Honda Research and Development

Judge’s Hospitality
GKN
Harley-Davidson

Officials/Volunteer Breakfasts
First Communications
Best Buy
Auburn Audio

Other
Auburn University Bookstore
Anders Bookstore
Chick-fil-A
Hudmon Construction
Office Depot
Waid-Ace Home Center

Special thanks to Auburn-Opelika Convention and Visitors Bureau

Thanks to all of the sponsors who made this event possible.

National – 2006 SAE Mini Baja

Platinum
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Suspension and Traction - Alfa

Saturday Banquet
Meru
Cingular Wireless

Registration
Ted and Cynthia Achorn

Friday Dinner
Red Bull
### Registered Teams

<table>
<thead>
<tr>
<th>Number</th>
<th>Team Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Auburn University</td>
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<tr>
<td>55</td>
<td>Binghamton University</td>
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<td>61</td>
<td>Bucknell University</td>
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<tr>
<td>37</td>
<td>Camden County College</td>
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<td>24</td>
<td>City University of New York</td>
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<td>6</td>
<td>Clarkson University</td>
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<tr>
<td>32</td>
<td>Clemson University</td>
</tr>
<tr>
<td>23</td>
<td>Collège de la Région de l'Amiante</td>
</tr>
<tr>
<td>85</td>
<td>College of New Jersey</td>
</tr>
<tr>
<td>11</td>
<td>College of New Jersey Junior</td>
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<tr>
<td>65</td>
<td>Cooper Union</td>
</tr>
<tr>
<td>28</td>
<td>Corning Community College #1</td>
</tr>
<tr>
<td>29</td>
<td>Corning Community College #2</td>
</tr>
<tr>
<td>30</td>
<td>Drexel University</td>
</tr>
<tr>
<td>44</td>
<td>East Carolina University</td>
</tr>
<tr>
<td>1</td>
<td>École de Technologie Supérieure</td>
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<tr>
<td>14</td>
<td>Embry Riddle Lady Eagles</td>
</tr>
<tr>
<td>53</td>
<td>Fairmont State College</td>
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<tr>
<td>51</td>
<td>Florida International University</td>
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<tr>
<td>54</td>
<td>George Washington University</td>
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<tr>
<td>57</td>
<td>Georgia Institute of Technology</td>
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<td>64</td>
<td>Georgia Southern University</td>
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<td>25</td>
<td>Johns Hopkins University</td>
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<td>45</td>
<td>Louisiana State University</td>
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<td>49</td>
<td>Manhattan College</td>
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<td>30</td>
<td>Michigan State University</td>
</tr>
<tr>
<td>40</td>
<td>Middle Tennessee State University Blue</td>
</tr>
<tr>
<td>39</td>
<td>Middle Tennessee State University Red</td>
</tr>
<tr>
<td>59</td>
<td>New York Institute of Technology</td>
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<tr>
<td>10</td>
<td>North Carolina A &amp; T State University</td>
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<tr>
<td>8</td>
<td>Northeastern University</td>
</tr>
<tr>
<td>16</td>
<td>Ohio State University</td>
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<td>4</td>
<td>Queen’s University</td>
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<td>Rochester Institute of Technology #1</td>
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<td>Rochester Institute of Technology #2</td>
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<tr>
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<td>Sheridan College</td>
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<td>50</td>
<td>St. Clair College of Applied Arts &amp; Technology</td>
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<td>60</td>
<td>Tennessee Tech University</td>
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<td>42</td>
<td>US Coast Guard Academy</td>
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<td>34</td>
<td>US Military Academy</td>
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<tr>
<td>46</td>
<td>Union College</td>
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<td>18</td>
<td>University of Central Florida #1</td>
</tr>
<tr>
<td>19</td>
<td>University of Central Florida #2</td>
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<tr>
<td>56</td>
<td>University of North Carolina at Charlotte</td>
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<tr>
<td>5</td>
<td>Université de Sherbrooke</td>
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<tr>
<td>21</td>
<td>University of Akron</td>
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<tr>
<td>48</td>
<td>University of Alabama at Birmingham</td>
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<td>University of Alabama GRITS</td>
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<td>University of Alabama</td>
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<td>University of Arizona</td>
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<td>University of Arkansas at Fort Smith</td>
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<td>52</td>
<td>University of Memphis</td>
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<td>University of Michigan</td>
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<td>University of New Hampshire</td>
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<td>9</td>
<td>University of Rhode Island</td>
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<td>71</td>
<td>University of South Florida</td>
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<td>33</td>
<td>University of Tennessee at Martin</td>
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<td>62</td>
<td>University of Tulsa</td>
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<td>31</td>
<td>University of Vermont</td>
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<td>70</td>
<td>University of Wisconsin</td>
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<td>22</td>
<td>Villanova University</td>
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<td>66</td>
<td>Virginia Tech</td>
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<tr>
<td>20</td>
<td>West Virginia University</td>
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<tr>
<td>41</td>
<td>Widener University</td>
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<tr>
<td>36</td>
<td>Wilkes University</td>
</tr>
</tbody>
</table>

Number of teams registered: 65
Schedule of Events

Apr 13, 2006: Static Events

6:00 a.m. – 7:00 p.m.  Paddock area open for rig parking  Grassy RV parking area north of Roosevelt Drive
7:00 a.m. – 9:00 a.m.  Breakfast for sale  Courtyard between SAC and Aquatics Center
7:30 a.m. – 8:00 a.m.  Team captains and advisors meeting  SAC gym
(Mandatory)
8:00 a.m. – 5:00 p.m.  On-site team registration  AU Student Activities Center (SAC)
East Breezeway
8:00 a.m. – 5:00 p.m.  Tee shirts for sale  SAC East Breezeway
8:30 a.m. – 6:00 p.m.  Engine check open  Grassy area just NNE of SAC
8:30 a.m. – 6:00 p.m.  Spill check open  Storm drain SSW of engine check
9:00 a.m. – 5:00 p.m.  Design open  SAC gym
9:00 a.m. – 6:00 p.m.  Tech open  SAC gym
11:00 a.m. – 1:00 p.m.  Briggs & Stratton lunch  Courtyard between SAC and Aquatics Center
(Activities open at organizers’ discretion)
2:00 p.m. – 6:00 p.m.  Brake check open  Sidewalk between SAC and Aquatics Center; SSW of registration
5:00 p.m.  Design finals  SAC Gym
6:00 p.m.  All activities closed  SAC and environs
7:00 p.m.  Briggs & Stratton plant tour  Auburn Industrial Park
7:00 p.m.  All rigs off site – parking closed  SAC and environs

Apr 14, 2006 2: Dynamic Events

6:00 a.m.  Site open for paddock setup  National Center for Asphalt Technology (NCAT) test track site
7:00 a.m. – 9:00 a.m.  Breakfast for sale  Main tent
7:00 a.m. – 5:00 p.m.  Fueling line open  Hot pit area
7:30 a.m. – 8:00 a.m.  Team captains and advisors meeting  Main tent
(Mandatory)
8:00 a.m. – 5:00 p.m.  On-site team registration  Main tent
8:00 a.m. – 5:00 p.m.  Tee shirts for sale  Main tent
8:00 a.m. – 5:00 p.m.  Engine check/spill check open  Main tent
8:00 a.m. – 5:00 p.m.  Tech by appointment only  Main tent
8:00 a.m. – 5:00 p.m.  Practice track open  East end of log pull flat
8:00 a.m. – 2:00 p.m.  Acceleration event open  North side of log pull flat
8:00 a.m. – 2:00 p.m.  Log pull event open  South side of log pull flat
8:00 a.m. – 2:00 p.m.  Water maneuverability open  Pond
10:00 a.m. – 5:00 p.m.  Land maneuverability event open  South side of maneuvering area
10:00 a.m. – 5:00 p.m.  Suspension & traction event open  North side of maneuvering area
11:00 a.m. – 1:00 p.m.  Honda lunch (Activities open at organizers’ discretion)  Main tent
5:30 p.m. – 6:30 p.m.  Endurance course walk  Main tent
(Mandatory for team captains, advisors, and endurance drivers)
7:00 p.m.  Red Bull dinner and screening of “Dust to Glory”  Log pull area
7:00 p.m. – 7:00 a.m., Sat.  Security on duty  Paddocks
Gate remains open overnight
## Apr 15, 2006: Endurance, Awards Banquet

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 a.m. - 9:00 a.m.</td>
<td>Breakfast for sale</td>
<td>Main tent</td>
</tr>
<tr>
<td>7:00 a.m. - 5:00 p.m.</td>
<td>Tee shirts for sale</td>
<td>Main tent</td>
</tr>
<tr>
<td>7:00 a.m.</td>
<td>Fueling line open</td>
<td>Hot pit</td>
</tr>
<tr>
<td>7:00 a.m.</td>
<td>Endurance race staging open</td>
<td>Road between paddocks and hot pit</td>
</tr>
<tr>
<td>7:45 a.m.</td>
<td>Enduro staging closed</td>
<td>Road between paddocks and hot pit</td>
</tr>
<tr>
<td></td>
<td>(Late cars staged at end of line)</td>
<td></td>
</tr>
<tr>
<td>7:46 a.m.</td>
<td>Staging line moves to grid; cars grid for enduro</td>
<td>Endurance course funnel</td>
</tr>
<tr>
<td>8:15 a.m.</td>
<td>Cars gridded and ready to race, drivers in cars (late cars are DNS or late start, at organizers' discretion)</td>
<td>Endurance course funnel</td>
</tr>
<tr>
<td>8:20 a.m.</td>
<td>Enduro start</td>
<td>Endurance course funnel</td>
</tr>
<tr>
<td>11:00 a.m. - 1:00 p.m.</td>
<td>Lunch for sale</td>
<td>Main tent</td>
</tr>
<tr>
<td>3:00 p.m.</td>
<td>Enduro finish</td>
<td>Hot pit area</td>
</tr>
<tr>
<td>3:00 p.m. - 4:00 p.m.</td>
<td>Impound and inspection</td>
<td>Hot pit area</td>
</tr>
<tr>
<td>5:00 p.m.</td>
<td>Site closed</td>
<td>NCAT test site</td>
</tr>
<tr>
<td>6:30 p.m.</td>
<td>Awards banquet food service open; tee shirts for sale</td>
<td>SAC gym</td>
</tr>
<tr>
<td>7:30 p.m.</td>
<td>Awards program begins</td>
<td>SAC gym</td>
</tr>
</tbody>
</table>

### 2006 SAE Mini Baja Locations

- **Auburn University Campus**
- **National Center for Asphalt Technology Track**