The Daniel Guggenheim School of Aerospace Engineering is recognized as having the:

- #1 ranked AE program in the US (College Factual)
- #2 ranked AE undergraduate program (#4 graduate) in the US (US News & World Report)
- #2 ranked AE program in the world by Shanghai Academic Ranking of World Universities

GT-AE Annual Funding:
- $32M in Sponsored Research
- $8M in State Support
School of AE – Student Population

- 976 undergraduate students
- US Citizens 863 (88%)
- International 113 (12%)
- In State 441 (45%)
- Out of State 535 (55%)
- Women 192 (20%)
- URM 171 (18%)
  - African Am. 54 (6%)
  - Hispanic Am. 99 (10%)
  - Native Am. 18 (1%)
- Asian 216 (22%)
Overview

• What do aerospace engineers (AE) do?
• What do AE students study at Georgia Tech?
• What do AE students do outside the classroom?
  o Research, Internships/Coop, Study Abroad, etc...
• How do I connect with AE at Georgia Tech?

[Georgia Tech Aerospace: An Introduction (video)]
Wide Range of Aerospace Systems
Aerospace: Sample Goals...

Fixed Wing Aircraft

- Low drag designs
- Quieter, fuel-efficient propellers or jet engines
- Composites and advanced aluminum alloy materials that are strong and light
- Autonomous systems to reduce pilot’s workload, and yield safe & enjoyable flight.

Spacecraft

- High energy, high density fuels
- Computers and software for guidance and control of rockets
- Optimum trajectories from earth to Mars and other places, that take the least amount of energy or time.
What do aerospace engineers do?

We design, build, or analyze systems and components.
  • Aircraft, helicopters, engines, satellites, rockets, unmanned vehicles, etc.

We work in related areas.
  • Automotive, power generation, bio-engineering, wind energy, environmental engineering, etc.

We serve society by making improvements to the state of the art in aerospace vehicles
  • Cheaper, quieter, faster, lighter, environmentally friendly applications.
# AE – Curriculum Overview

<table>
<thead>
<tr>
<th>Topics</th>
<th>Credit Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humanities &amp; Social Sciences</td>
<td>24</td>
<td>18%</td>
</tr>
<tr>
<td>Math and Sciences</td>
<td>31</td>
<td>23%</td>
</tr>
<tr>
<td>Technical Courses outside AE</td>
<td>12</td>
<td>9%</td>
</tr>
<tr>
<td>AE Options</td>
<td>8</td>
<td>6%</td>
</tr>
<tr>
<td>Free Electives</td>
<td>9</td>
<td>7%</td>
</tr>
<tr>
<td>Health Physics</td>
<td>2</td>
<td>2%</td>
</tr>
<tr>
<td>AE required</td>
<td>46</td>
<td>35%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>132</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

- Students complete lecture and lab based courses in variety of technical disciplines
- Before graduation all students complete a design methods course and a capstone design course
  - Design course may be associated with a fixed wing vehicle, space system, vertical lift system or other team design projects tied to industry and professional organizations.
- Details Here: [https://ae.gatech.edu/undergraduate-curriculum](https://ae.gatech.edu/undergraduate-curriculum)
AE Specialty Areas

• The AE School has created a set of 10 AE specialty areas to help students design their educational experience.

• Each of the following 10 specialty areas offers suggestions for specific options and elective courses that will help meet career and educational goals.

• The ten AE specialty areas listed here are not concentrations, minors, or requirements. They are suggestions, developed by AE faculty, employers, and the Aerospace Engineering School Advisory Council (AESAC).

• https://ae.gatech.edu/ae-specialty-areas

• Aeromechanics
• Aircraft Flight Dynamics
• Controls
• Human Factors
• Propulsion
• Rotorcraft or Vertical Flight
• Space and Entrepreneurship
• Space and Science
• Space and Technology
• Spacecraft Dynamics
Design, build, and fly an aerospace system

- Our students compete nationally against other universities.
- They design, build, and fly a vehicle that will meet the specifications.
- They develop team skills, oral and written communication skills, and a strong work ethic.
GET INVOLVED
with Student Organizations @AE
Here are some of the clubs that are very popular in the AE School:

• Vertical Flight Society
  http://ahs.gatech.edu/

• The Ramblin’ Rocket Club
  http://rocket.gtorg.gatech.edu/index.php

• GT Off-Road Club
  https://gtor.gatech.edu/#!/mainpage

• Sigma Gamma Tau
  http://sgt.gtorg.gatech.edu/

• Yellow Jacket Flying Club
  https://yjfc.org/

• American Institute of Aeronautics & Astronautics (AIAA)
  http://gtaiaa.weebly.com/

• Women of Aeronautics and Astronautics (WoAA)
  facebook.com/GeorgiaTechWoAA/

See all of Georgia Tech’s Student Orgs
bit.ly/GTstudentorgs
Salary Survey – Georgia Tech AE Graduates

<table>
<thead>
<tr>
<th>Median Salary (BS)</th>
<th>Median Salary (MS)</th>
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</thead>
<tbody>
<tr>
<td>$73,950</td>
<td>$95,000</td>
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</table>

<table>
<thead>
<tr>
<th>High Salary (BS)</th>
<th>High Salary (MS)</th>
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<tbody>
<tr>
<td>95th Percentile</td>
<td>95th Percentile</td>
</tr>
<tr>
<td>$90,000</td>
<td>$110,700</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Median Bonus (BS)</th>
<th>Median Bonus (MS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$5,000</td>
<td>$7,500</td>
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</table>

Georgia Tech data
Academic Year: 2018-2019
Where do Aerospace Engineers Work?

**Aircraft Manufacturers**
- Lockheed, Boeing, Airbus, Cessna, Gulfstream, ...

**NASA Centers and FFRDCs**
- Kennedy, Langley, Ames, Glenn, Johnson, Goddard, Stennis, Armstrong, JPL, Aerospace Corporation

**Engine Manufacturers**
- GE, Pratt & Whitney, Rolls Royce, Turbomeca, ...

**Commercial Space Companies**
- SpaceX, Blue Origin, Orbital Sciences, Boeing, Virgin Galactic, Sierra Nevada, ...

**Helicopter Manufacturers**
- Bell, Boeing, Sikorsky, Robinson, ...

**Government Agencies and Labs**
- Air Force Labs, Navy labs, DARPA, Department of Energy

**Electricity Generation in Power Plants**
- GE, Pratt & Whitney, Regional Power Companies

**Airlines**
- Delta, United, American, ...

Hundreds of small businesses and suppliers that cater to the needs of the aerospace industries and the government.
A Sample: Where do our students work?

GT-AE - Interning Across the USA

Connecting Great Students with Employers 1 (video)
Connecting Great Students with Employers 2 (video)
What do AE students do outside and inside the classroom?

• Electives and AE Options allow students to seek either a broader or more specialized portfolio
  o Humanities & SS (12), Math Option (3), AE Options (8), Free Electives (9)

• UG Research, Design Competition Courses, Design-Build-Fly offer substantial learning for course credit outside the traditional classroom setting
  o Also, most AE students engage in at least one summer Internship or in the Coop Program

• Study Abroad (& International Plan Option) increasingly common for AE students
  o AE faculty teach in Georgia Tech courses at Georgia Tech Lorraine (France), Limerick (Ireland), and Oxford University (England)

• Minor Programs offer intensive study in a second field
  • Interdisciplinary minors are offered in Computing for Scientists and Engineers, Energy Systems and Robotics for AE students
  • Minor is AE is offered to non-AE students

• BS/MS Honors Program offers fast-track to MS and three undergraduate research experiences for students with a GPA \( \geq 3.5 \)
AE Program Overview

• Very highly ranked AE program attracting students with strong GPA, standardized test scores, and prior experience.

• Strong educational program preparing students in all AE disciplines for industry positions or graduate study.

• Large fraction of students taking advantage of educational activities beyond the classroom:
  o research, internship, coop, study abroad, design competitions, design-build-fly courses.

• We look forward to working with you as you pursue your dreams.
  o www.ae.gatech.edu for more information
Connect with the AE School

@gtaerospace
@GT Aerospace
@gtaerospace
Georgia Tech Aerospace Engineering

#GTaerospace