

Survey of Aerospace Student Attitudes

Study Overview and Survey Instrument

Study Motivation and Goals

The loss of aerospace engineering talent has been recognized as a major issue facing the aerospace industry. As the existing workforce ages and prepares to retire, there are concerns that a lack of young incoming engineers may hinder the future growth of the industry. A recent Presidential Commission on the Future of the United States Aerospace Industry described the decline in the aerospace workforce as “a threat to national security and our capability to continue as a world leader” [1]. Alongside the growing national concern over the poor scores in science, technology, engineering and math (STEM) fields, there are more specific worries in the industry that students studying aerospace in college may not ultimately join the workforce. As these worries are based more on off-handed discussions with policymakers and analysts than on data, there is an identified need to provide data on the career goals and perspectives of current aerospace students and young professionals.

There is a wealth of information from sources such as the Aerospace Industries Association (AIA) and the National Science Foundation (NSF) on employment statistics and graduation rates for engineers. These statistics show how the aerospace industry, while slowly recovering from the steep jobs losses of the 1990s, is still facing a shortage of workers. Total industry employment, including engineering and technical disciplines, has fallen by over 600,000 jobs in the period between 1989 and 2007 [2], with 26-27% of remaining workers eligible to retire by 2008 [1]. Between 1992 and 2003, the number of workers age 34 or younger decreased from 32% of the workforce to 16% [3]. At the same time, degrees awarded for a Bachelor’s, Master’s or Doctorate in aerospace engineering have been increasing from a low point reached in 2000 [4,5]. It would benefit employers to understand what perceptions these newly minted engineers have of the aerospace industry, and how their perceptions and experiences up to graduation will affect their likelihood of joining the industry.

Beyond the statistical data available, there is only a limited amount of data that involves student and young professional attitudes toward the aerospace industry. A NASA/DoD survey of AIAA student members in the mid-1990s focused on communication practices, but also included several questions on career aspirations and satisfaction [6]. The students were asked about the factors that influenced their career decisions, and about their relative happiness with their career choices compared to when they decided to pursue aerospace. More recently, in 2004 the California Space Authority surveyed young aerospace professionals in California [7]. The survey was focused on what factors led them to pursue aerospace as a career, and explored what aspects of their jobs the engineers did and did not like. For example, a “higher salary and other incentives” was the single largest reason that responders would consider leaving the industry. The data were provided to vice presidents of several aerospace companies, who reported that changes were made in personnel practices based on the results. Although this survey was focused exclusively on the California aerospace industry, it provides a useful framework for what a similar, nation-wide student survey should include.

The goal of this research project is to gain insights into what motivates students to study aerospace engineering, how their experiences influence their career choice, and what are their perspectives on a future career in or outside of the aerospace industry. These insights can be used to identify reasons that students might not stay in the aerospace field, and to help formulate practices to hire and retain engineers. The approach chosen to collect this data is to run a cross-institution survey of aerospace students. The results will be shared with the broader community interested in aerospace education and workforce development.

Study Population

The population being studied in this research project is sophomores and seniors in university departments nationwide that offer an aerospace engineering curriculum. This represents groups just beginning and groups ready to complete their undergraduate aerospace curriculum. For the purposes of this study, the definition of sophomore and senior are as follows:

- At a 4 year institution: The definition of sophomore (2nd year undergraduate) and senior (4th year undergraduate) are as that institution defines a sophomore or senior.

- At non-4-year institutions: A sophomore is defined as an undergraduate student who has declared a major and who has completed at least 2, but not more than 4, semesters (or the equivalent) of university study. There is no requirement for any minimum amount of coursework completed in each semester. A senior is defined as an undergraduate student who intends to graduate within the next 12 months.

Survey Instrument Design

The chief dependent variable examined in this research is the acceptance of a job in the aerospace industry.

Explanatory variables are drawn from five construct areas:

1. Motivating factors for initial interest in the aerospace industry
2. Influence of college experiences on student choice of the aerospace industry
3. Career expectations and desired job attributes
4. Student perceptions of the aerospace industry and of alternative careers
5. Demographics

The survey instrument is web-based, and takes approximately 30-40 minutes to complete. A copy of the survey instrument is shown, starting on page 3.

Research Team and Contact Information

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References

- [1] *Final Report of the Commission on the Future of the United States Aerospace Industry*. Chapter 8, "Workforce: Launch the Future." Commission on the Future of the United States Aerospace Industry, Arlington, VA. November 2002. URL: <http://usms.nist.gov/roadmaps/object.cfm?ObjectID=296> . Accessed December 10, 2007.
- [2] "Total Employment: Calendar Years 1990 to Date." Aerospace Industries Association, website on Aerospace Statistics. URL: http://www.aia-aerospace.org/stats/aero_stats/stat12.pdf. Accessed December 10, 2007.
- [3] "Revitalization of the Aerospace Workforce." Aerospace Industries Association website. URL: http://www.aia-aerospace.org/issues/subject/employment_facts.cfm . Accessed December 10, 2007.
- [4] "Science and Engineering Degrees: 1966-2004, Detailed Statistical Tables." National Science Foundation, NSF 07-307. January 2007.
- [5] Jaqueline C. Falkenheim. "U.S. Doctoral Awards in Science and Engineering Continue Upward Trend in 2006." National Science Foundation, NSF 08-301. November 2007.
- [6] Pinelli, Thomas E., Hecht, Laura M., Barclay, Rebecca O., and Kennedy, John M. *NASA/DOD Aerospace Knowledge Diffusion Research Project. Report 26: The Technical Communication Practices of Aerospace Engineering Students: Results of the Phase 3 AIAA National Student Survey*. NASA-TM-109121; NAS 1.15:109121. December 1994.
- [7] Cohl, Rebecca M. and Alde, Ray. "Results: State-Wide Survey of New Space Professionals." California Space Authority, Powerpoint presentation. October 25, 2005.

Survey of Aerospace Student Attitudes 2009

1. Consent

Welcome to the Aerospace Engineering Student Survey!

We very much appreciate your time and participation in this important research activity. Our goal is to gain insights into what motivates students to study aerospace engineering, how student experiences influence their career choice, and what student perspectives are on a future career in or outside of the aerospace industry. The survey should take about 30-40 minutes to complete.

You were selected as a participant in this study because you are an undergraduate student in a department that offers an aerospace engineering curriculum. Completing the survey is entirely voluntary, and you can choose to not answer any question or to stop taking the survey at any time. All information provided will be kept confidential.

As an incentive, each student that completes the survey will be entered into a raffle to win one of six \$50 gift certificates to Amazon.com. In addition, there will be a \$100 and \$200 prize to support student life activities awarded to a small and large Department, respectively, that achieves the highest percentage participation in the survey.

Lastly, this survey and research activity is being conducted in accordance with approved protocols established by the Massachusetts Institute of Technology for conducting research involving human subjects. Click here to read a full-length formal consent agreement. [click here](#)

Again, we really appreciate your time and participation in this important research activity. If you have any questions, please contact us at aerosurvey@mit.edu or 617-253-1207.

Sincerely,

Annalisa Weigel, Ph.D. (Principal Investigator) and Ryan Daspit (Research Assistant)

Aeronautics and Astronautics Department, Massachusetts Institute of Technology

I understand the procedures described above. My questions have been answered to my satisfaction, and I agree to participate in this study.

In order to consent to this survey, click the "next" button below.

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2. Basic Information

1. Each student that completes the survey will be entered into a raffle to win one of six \$50 gift certificates to Amazon.com. Winning students will be notified by email. If you would like to be entered into the raffle, please enter your current email address.

Email Address:

2. We will be doing an important follow-up survey in 2 years, to see how your opinions have changed in the intervening time. Please provide an email address you expect to be using 2 years from now, such as a school alumni email address, a personal account, etc.

Email Address:

3. What college/university do you currently attend?

4. What year did you begin college/university?

Year

5. What year do you expect to graduate from college/university?

Year

6. What kind of college/university department are you in?

Aerospace Engineering and/or Aeronautics and/or Astronautics only

Combined Aerospace and Mechanical Engineering

Aerospace combined with another discipline

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3. Initial Interest

1. Using the first one, two, or three words that come to mind, how would you describe the aerospace industry?

Word 1

Word 2

Word 3

2. Before you applied to college/university, what first sparked your interest in aerospace? (check all that apply)

- Pilots / Wanted to be a pilot
- Astronauts / Wanted to be an astronaut
- Aircraft
- Space exploration
- Model rockets
- Paper airplanes
- Star Trek/Star Wars
- Other aviation- or space-related movies, TV shows
- Classes in science, technology, engineering, or math
- Don't remember

Other (please specify)

3. How old were you when you first became interested in aerospace?

Age

4. Before applying to college/university, did you want to pursue a career in aerospace?

Yes

No

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5. Before applying to college/university, which activities did you participate in? (check all that apply)

- Sports and Athletics
- Theater or Music
- Visual Arts
- Honor Societies
- FIRST Robotics Competition
- Other (please specify)
- Junior Engineering Technical Society (JETS)
- Space Camp
- Science Olympiad
- Science Clubs
- Math Clubs

6. How many family members or close family friends are engineers?

7. Why did you choose to attend the college/university you are at now? (check all that apply)

- Quality of engineering program
- Availability of special academic programs (e.g., Honors Program)
- Availability of special programs for women or minorities
- This college has a very good academic reputation
- This college offers a well-rounded education
- This college offers good research projects
- This college's graduates get good jobs
- Best school I got into
- I knew someone who went here
- College counselor or teacher advised me
- Advice of a friend of the family
- I wanted to live near home
- I wanted to go to a school about the size of this college
- This college has a good reputation for its social activities
- This college has low tuition
- I was offered financial assistance
- Not offered aid by my first choice
- Admitted through an Early Action or Early Decision program
- Efforts of school to recruit me
- Information from a website or brochure
- A visit to the campus

Other (please specify)

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8. When did you decide to study aerospace engineering?

- Before applying to college
- After applying but before starting college
- During Freshman or equivalent year
- During Sophomore or equivalent year
- During Junior or equivalent year

9. When did you declare a major in aerospace engineering?

- Before arriving on campus
- During Freshman or equivalent year
- During Sophomore or equivalent year
- During Junior or equivalent year

10. Why did you decide to study aerospace engineering?

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4. College Experiences

1. What area are you interested in?

Mostly Aeronautical Engineering

Mostly Astronautical Engineering

Both

Neither

2. Have you had an internship or Co-op in the aerospace industry?

Yes

No

3. If you answered yes above, please list organization name and year (e.g. 2008) for each internship or Co-op experience.

Organization 1	<input type="text"/>
Year 1	<input type="text"/>
Organization 2	<input type="text"/>
Year 2	<input type="text"/>
Organization 3	<input type="text"/>
Year 3	<input type="text"/>
Enter additional internships or Co-ops here	<input type="text"/>

4. Overall, how did your internship(s) and/or Co-op(s) compare to your expectations?

Fell short of my expectations

Matched my expectations

Exceeded my expectations

Differed from my expectations

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5. Have you participated in research on campus?

Yes

No

If yes, please describe.

6. Are you a member of any aerospace-related organizations, on or off campus? (check all that apply)

- American Institute of Aeronautics and Astronautics
- Sigma Gamma Tau
- Students for the Exploration and Development of Space
- National Space Society
- The Planetary Society
- Local Flying Club
- Other (please specify)

7. Have you helped organize events or otherwise volunteered for any aerospace-related organizations?

Yes

No

If yes, please describe.

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8. What extracurricular activities do you participate in at college/university?
(check all that apply)

- Athletics
- Ethnicity-based organization
- Gender-based organization
- Political group
- Student government
- Campus newspaper or literary magazine
- Fraternity or sorority
- Playing, singing, or acting in an orchestra, band, chorus, theater, or other musical group
- Volunteering in the community
- Project competition (e.g. Design-Build-Fly, DARPA challenge)
- Non-aerospace academic clubs
- Other

If other, please specify:

9. How often do you do each of the following?

	Daily	Weekly	Monthly	Yearly	Never
Interact with aerospace faculty outside of class?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Interact with aerospace industry professionals?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hear speakers from the aerospace industry in class?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Attend special aerospace seminars or talks outside of normal class hours?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Attend aerospace-related events or socials (other than talks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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10. Please indicate how each of the following has influenced your desire to work in aerospace:

	Strong positive influence	Positive Influence	Negative Influence	Strong negative influence	N/A
Engineering classes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Non-engineering classes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hands-on experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Summer job or internship or co-op	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
On-campus research opportunity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Membership in aerospace-related organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Industry speakers that visited campus	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Career fairs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Faculty	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Non-faculty mentor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(please specify)

11. Which one of the following had the most positive influence on your desire to work in aerospace?

- Engineering classes
- Non-engineering classes
- Hands-on experience
- Summer job or internship or co-op
- On-campus research opportunity
- Membership in aerospace-related organization
- Industry speakers that visited campus
- Career fair
- Faculty
- Non-faculty mentor
- Nothing has positively influenced my desire to work in aerospace
- Other

Why?

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12. Which one of the following had the most negative influence on your desire to work in aerospace?

- Engineering classes
- Humanities classes
- Hands-on experience
- Summer job or internship or co-op
- On-campus research opportunity
- Membership in aerospace-related organization
- Industry speakers that visited campus
- Career fair
- Faculty
- Non-faculty mentor
- Nothing has negatively influenced my desire to work in aerospace
- Other

Why?

13. Has your college/university experience to date given you an overall positive or negative impression of the aerospace industry?

- Positive
- Negative

14. What, if anything, happened during your college/university time that really made you like the aerospace industry?

15. What, if anything, happened during your college/university time that really made you dislike the aerospace industry?

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16. How has your time at college/university contributed to your skills and experiences in the following areas?

	Significantly contributed	Somewhat contributed	Didn't contribute	Negatively contributed
Ability to frame problems	70	20	10	0
Analytical skills	70	20	10	0
Basic research	70	20	10	0
Math and science	70	20	10	0
Humanities and social science	70	20	10	0
Business practices	70	20	10	0
Economic development	70	20	10	0
Entrepreneurship	70	20	10	0
Ethical and/or social issues	70	20	10	0
Hands-on experiences	70	20	10	0
Innovation, creativity, and flexibility	70	20	10	0
Inventions and industrial applications	70	20	10	0
Policy implications of engineering	70	20	10	0
Leadership	70	20	10	0
Risk taking	70	20	10	0
Effective teamwork	70	20	10	0
Writing skills	70	20	10	0
Verbal communication skills	70	20	10	0

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5. Career Expectations and Desired Job Attributes

1. At this time, do you desire to go to graduate school?

- Yes
- No
- Undecided

2. If you did go to graduate school, what would you plan to study?

- | | |
|---|---|
| <input type="radio"/> Mechanical Engineering | <input type="radio"/> Earth, Atmospheric, and Planetary Science |
| <input type="radio"/> Civil/Environmental Engineering | <input type="radio"/> Economics |
| <input type="radio"/> Chemical Engineering/Chemistry | <input type="radio"/> Management |
| <input type="radio"/> Physics | <input type="radio"/> Law |
| <input type="radio"/> Operations Research | <input type="radio"/> Medicine |
| <input type="radio"/> Electrical Engineering/Computer Science | <input type="radio"/> Political Science |
| <input type="radio"/> Materials Science and Engineering | <input type="radio"/> Math |
| <input type="radio"/> Biology/Bioengineering | <input type="radio"/> Humanities |
| <input type="radio"/> Aero/Astro Engineering | <input type="radio"/> N/A |
| <input type="radio"/> Other (please specify) | |

3. Please check the statement below which most accurately describes your situation regarding graduate studies.

- I have not applied to graduate school.
- I applied to graduate school, but was not offered admission.
- I have applied to graduate school, but have chosen to not accepted offers of admission.
- I have applied to graduate school, and have deferred an offer of admission.
- I have applied to graduate school, and accepted an offer of admission.

If you have accepted admission to a graduate program, please enter the name of the college/university and department where you will do your graduate studies.

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4. At this time, do you see yourself entering the aerospace industry when you complete your undergraduate or graduate education?

Yes

No

Undecided

If not, what other industry do you see yourself entering?

5. Are you currently, or do you aspire to be, any of the following?

	Yes	No	Undecided
a private pilot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a commercial pilot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
a military pilot	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
an astronaut	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. Please indicate how you feel about the following statements:

	Strongly disagree	Disagree	Agree	Strongly agree
I want to work for one company or organization for my whole career.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I want to work for different companies or organizations over the course of my career.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I want to work in a technical capacity for my whole career.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I want to work in a management capacity for at least half of my career.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I want to work on a different project every year.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I want to work on one project for many years.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. How long would you expect to stay with the first company / organization you work for after graduation?

At least 6 months

At least 1 year

At least 5 years

At least 10 years

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8. What are your expectations about the frequency of each item below?

	every 6 months or less	every 6 months to 1 year	every 1 to 5 years	every 5 to 10 years	every 10+ years	Never
How often you will switch jobs in the same company/organization.	ja	ja	ja	ja	ja	ja
How often you will switch companies/organizations in the same career.	ja	ja	ja	ja	ja	ja
How often you will switch careers.	ja	ja	ja	ja	ja	ja
How often you will gain new engineering responsibility.	ja	ja	ja	ja	ja	ja
How often you will gain promotions.	ja	ja	ja	ja	ja	ja
How often you will get salary raises.	ja	ja	ja	ja	ja	ja

9. Please rank your top four job attributes.

	1st choice	2nd choice	3rd choice	4th choice
Salary	ja	ja	ja	ja
Benefits	ja	ja	ja	ja
Location	ja	ja	ja	ja
Job security	ja	ja	ja	ja
Educational opportunities	ja	ja	ja	ja
Flexible schedule	ja	ja	ja	ja
Work/life balance	ja	ja	ja	ja
Project variety	ja	ja	ja	ja
Challenge	ja	ja	ja	ja
Excitement	ja	ja	ja	ja
Work environment / culture	ja	ja	ja	ja
Leadership opportunities	ja	ja	ja	ja
Recognition of personal achievements	ja	ja	ja	ja
Sense of direct contributions	ja	ja	ja	ja
Working with hardware	ja	ja	ja	ja
Other	ja	ja	ja	ja

If other, please specify

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10. Have you had any permanent aerospace-related job offers?

Yes

No

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6. Aerospace Offers

1. How many permanent aerospace-related job offers did you receive?

1

5

9

2

6

10

3

7

more than 10

4

8

2. For each of the following avenues, please enter the number of job offers for which that avenue was a main resource for obtaining those job offers.

Career fair

Internship

Knew someone that worked there

Online application

College career office

Other

3. Have you accepted a permanent aerospace-related job?

Yes

No

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7. Aerospace Job Details

1. Please describe the permanent aerospace-related job you have accepted.

Company/Organization

Location

Salary

Section/Group/Project Area

2. Were you an intern or Co-op student at the company/organization where you accepted a permanent job?

Yes

No

3. What was your main resource for finding this permanent job?

Career fair

Internship

Knew someone that worked there

Online application

College Career Office

Other (please specify)

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4. What factors led you to accept this permanent job? Select up to four.

	1st choice	2nd choice	3rd choice	4th choice
Salary	jn	jn	jn	jn
Benefits	jn	jn	jn	jn
Location	jn	jn	jn	jn
Job security	jn	jn	jn	jn
Educational opportunities	jn	jn	jn	jn
Flexible schedule	jn	jn	jn	jn
Work/life balance	jn	jn	jn	jn
Project variety	jn	jn	jn	jn
Challenge	jn	jn	jn	jn
Excitement	jn	jn	jn	jn
Work environment / culture	jn	jn	jn	jn
Leadership opportunities	jn	jn	jn	jn
Recognition of personal achievements	jn	jn	jn	jn
Sense of direct contributions	jn	jn	jn	jn
Working with hardware	jn	jn	jn	jn
Other	jn	jn	jn	jn

If other, please specify

5. Why did you accept this permanent job?

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8. Non-Aerospace Offers

1. Have you received any permanent non-aerospace-related job offers?

Yes

No

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9. Non-Aerospace Offer Details

1. How many permanent non-aerospace-related job offers did you receive?

1

5

9

2

6

10

3

7

more than 10

4

8

2. For each of the following avenues, please enter the number of job offers for which that avenue was a main resource for obtaining those job offers.

Career fair

Internship

Knew someone that worked there

Online application

College career office

Other

3. Have you accepted a permanent non-aerospace-related job?

Yes

No

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10. Non-Aerospace Job Details

1. In which of the following industries did you accept the permanent job offer?

Finance

Education/Academia

Management and Consulting

Pharmaceuticals and Biotech

Software and Info Services

Medicine

Defense

Business

Other Engineering

Transportation

Computer Hardware and Electronics

Law

Biological Sciences

Energy

Other (please specify)

2. Why did you choose that industry instead of aerospace?

3. Please describe the non-aerospace-related job you have accepted.

Company/Organization

Location

Salary

Section/Group/Project

Area

4. Were you an intern or Co-op student at the company/organization where you accepted the permanent job?

Yes

No

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5. What was your main resource for finding this permanent job?

- Career fair
- Internship
- Knew someone that worked there
- Online application
- College Career Office
- Other (please specify)

6. What factors led you to accept this permanent job? Select up to four.

	1st choice	2nd choice	3rd choice	4th choice
Salary	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Benefits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Location	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Job security	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Educational opportunities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flexible schedule	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Work/life balance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Project variety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Challenge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Excitement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Work environment / culture	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leadership opportunities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Recognition of personal achievements	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sense of direct contributions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Working with hardware	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If other, please specify

7. Why did you accept this permanent job?

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11. Student Perceptions of Industry

1. The aerospace industry needs more than just people trained in aerospace engineering. How likely are you to recommend your friends in other engineering majors to take an aerospace-related job?

Very likely

Likely

Unlikely

Very unlikely

Why?

2. How likely are you to stay in an aerospace-related job for your whole career?

Very likely

Likely

Unlikely

Very unlikely

3. What would make you leave an aerospace-related job for a non-aerospace-related job?

4. How do you view the overall health and long-term prospects of aerospace-related jobs?

Very good

Good

Somewhat poor

Poor

5. Have you seriously considered working in a non-aerospace-related job?

Yes

No

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6. If you have seriously considered working in a non-aerospace-related job, please indicate which industry the job was in (check all that apply).

- Finance
- Management and Consulting
- Software and Info Services
- Defense
- Other Engineering
- Computer Hardware and Electronics
- Biological Sciences
- Other (please specify)
- Education/Academia
- Pharmaceuticals and Biotech
- Medicine
- Business
- Transportation
- Law

7. How do aerospace-related jobs compare to non-aerospace-related jobs on the following attributes?

	More favorably	Less favorably
Salary	jn	jn
Benefits	jn	jn
Location	jn	jn
Job security	jn	jn
Educational opportunities	jn	jn
Flexible schedule	jn	jn
Work/life balance	jn	jn
Project variety	jn	jn
Challenge	jn	jn
Excitement	jn	jn
Work environment / culture	jn	jn
Leadership opportunities	jn	jn
Recognition of personal achievements	jn	jn
Sense of direct contributions	jn	jn
Working with hardware	jn	jn
Other	jn	jn

If other, please specify

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8. Using 20 words or less, describe the aerospace industry.

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12. Demographic Information

1. Your age:

2. Your gender:

Male

Female

3. Citizenship:

4. What ethnicity or race do you most identify with?

White

Black/African American

Hispanic/Latino

Asian or Pacific Islander

American Indian or Alaskan Native

Other (please specify)

5. Where do you consider yourself to be from?

City

State

Country

6. Where did you go to high school?

City

State

Country

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7. What is your father's occupation?

- | | | |
|--|--|--|
| <input type="checkbox"/> Management | <input type="checkbox"/> Arts and Design | <input type="checkbox"/> Office and Administrative Support |
| <input type="checkbox"/> Business and Financial | <input type="checkbox"/> Entertainment, Sports, or Media | <input type="checkbox"/> Farming, Fishing, and Forestry |
| <input type="checkbox"/> Computer and Mathematical Science | <input type="checkbox"/> Healthcare Practitioner | <input type="checkbox"/> Construction and Extraction |
| <input type="checkbox"/> Architecture and Engineering | <input type="checkbox"/> Healthcare Support | <input type="checkbox"/> Installation, Maintenance, and Repair |
| <input type="checkbox"/> Life, Physical, and Social Sciences | <input type="checkbox"/> Protective Service | <input type="checkbox"/> Production |
| <input type="checkbox"/> Community and Social Services | <input type="checkbox"/> Food Preparation and Serving | <input type="checkbox"/> Transportation |
| <input type="checkbox"/> Legal | <input type="checkbox"/> Building and Groundskeeping/Maintenance | <input type="checkbox"/> Homemaker (full-time) |
| <input type="checkbox"/> Educational | <input type="checkbox"/> Personal Care and Service | <input type="checkbox"/> Unemployed |
| <input type="checkbox"/> Library | <input type="checkbox"/> Sales | <input type="checkbox"/> Do not know |
| <input type="checkbox"/> Other (please specify) | | |

8. What is the highest level of education that your father completed?

- Did not finish high school
- High School Diploma or equivalent
- Attended college/university but did not complete degree
- Associate's Degree
- Bachelor's Degree
- Master's Degree
- Doctoral Degree
- Unknown

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9. What is your mother's occupation?

- | | | |
|--|--|--|
| <input type="checkbox"/> Management | <input type="checkbox"/> Arts and Design | <input type="checkbox"/> Office and Administrative Support |
| <input type="checkbox"/> Business and Financial | <input type="checkbox"/> Entertainment, Sports, or Media | <input type="checkbox"/> Farming, Fishing, and Forestry |
| <input type="checkbox"/> Computer and Mathematical Science | <input type="checkbox"/> Healthcare Practitioner | <input type="checkbox"/> Construction and Extraction |
| <input type="checkbox"/> Architecture and Engineering | <input type="checkbox"/> Healthcare Support | <input type="checkbox"/> Installation, Maintenance, and Repair |
| <input type="checkbox"/> Life, Physical, and Social Sciences | <input type="checkbox"/> Protective Service | <input type="checkbox"/> Production |
| <input type="checkbox"/> Community and Social Services | <input type="checkbox"/> Food Preparation and Serving | <input type="checkbox"/> Transportation |
| <input type="checkbox"/> Legal | <input type="checkbox"/> Building and Groundskeeping/Maintenance | <input type="checkbox"/> Homemaker (full-time) |
| <input type="checkbox"/> Educational | <input type="checkbox"/> Personal Care and Service | <input type="checkbox"/> Unemployed |
| <input type="checkbox"/> Library | <input type="checkbox"/> Sales | <input type="checkbox"/> Do not know |
| <input type="checkbox"/> Other (please specify) | | |

10. What is the highest level of education that your mother completed?

- Did not finish high school
- High School Diploma or equivalent
- Attended college/university but did not complete degree
- Associate's Degree
- Bachelor's Degree
- Master's Degree
- Doctoral Degree
- Unknown

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13. Thank You

Thank you for participating in the Aerospace Engineering Student Survey. Your answers will help improve the education and preparation of future students, and will help industry provide better career opportunities for those aspiring to enter the aerospace workforce.

You have been entered into the raffle for a \$50 Amazon.com gift certificate. Also, if your school has the highest percentage of responses, your Department will win either \$100 or \$200 for student activities, so please remind your aerospace engineering classmates to take the survey.

If you have any questions, concerns, or feedback about the survey, please contact Dr. Annalisa L. Weigel, Principal Investigator, at aerosurvey@mit.edu or 617-253-1207. Thanks again!