

Educating the Engineer of 2020 Alumni Survey

PERSONAL INFORMATION

1. What was your undergraduate major?

- | | |
|---|---|
| <input type="radio"/> Bio-medical/Bio-engineering | <input type="radio"/> General engineering/Engineering Science |
| <input type="radio"/> Chemical engineering | <input type="radio"/> Industrial engineering |
| <input type="radio"/> Civil engineering | <input type="radio"/> Mechanical engineering |
| <input type="radio"/> Electrical engineering | <input type="radio"/> Other (please specify): _____ |

2. When you entered the institution where you earned your bachelor's degree, were you a:

- First-time college student
- Transfer student with an associate's degree from a community or two-year college
- Transfer student without an associate's degree from a community or two-year college
- Transfer student from a four-year institution
- "3+2 program" transfer from another four-year institution

3. What is your gender?

- Man
- Woman

4. Are you: (Please select all that apply.)

- | | |
|---|---|
| <input type="radio"/> African American | <input type="radio"/> Caucasian/White |
| <input type="radio"/> Asian American | <input type="radio"/> Foreign national (citizen of another country) |
| <input type="radio"/> Hispanic or Latino/a American | <input type="radio"/> Naturalized U.S. citizen |
| <input type="radio"/> Native American | <input type="radio"/> Other (please specify): _____ |

5. What is the <u>highest level</u> of formal schooling that each of your parents/guardians have completed? (Mark ONLY ONE oval per column).	Mother/ Guardian	Father/ Guardian
Did not finish high school	<input type="radio"/>	<input type="radio"/>
High school graduate/GED	<input type="radio"/>	<input type="radio"/>
Attended college but did not receive a degree	<input type="radio"/>	<input type="radio"/>
Vocational/technical certificate or diploma	<input type="radio"/>	<input type="radio"/>
Associate or other 2-year degree	<input type="radio"/>	<input type="radio"/>
Bachelor's or other 4-year degree	<input type="radio"/>	<input type="radio"/>
Master's degree (M.A., M.S., M.B.A., etc.)	<input type="radio"/>	<input type="radio"/>
Doctorate degree (Ph.D., J.D., M.D., etc.)	<input type="radio"/>	<input type="radio"/>

6. Did you take the SAT or ACT tests? (Please select all that apply.)

No. I did not take either exam.

Yes, I took the SAT exam, and my scores were approximately:

SAT Verbal SAT Math

Yes, I took the ACT exam, and my Composite score was approximately:

7. What was your approximate overall academic average in high school and in your engineering program?

	High School	Engineering Program
1.49 or below (below C-)	<input type="radio"/>	<input type="radio"/>
1.50 - 1.99 (C- to C)	<input type="radio"/>	<input type="radio"/>
2.00 - 2.49 (C to B-)	<input type="radio"/>	<input type="radio"/>
2.50 - 2.99 (B- to B)	<input type="radio"/>	<input type="radio"/>
3.00 - 3.49 (B to A-)	<input type="radio"/>	<input type="radio"/>
3.50 or above (A- to A)	<input type="radio"/>	<input type="radio"/>
Not applicable	<input type="radio"/>	<input type="radio"/>

ENGINEERING SKILLS

Instructions: In the following section, you will be asked to think about your level of ability in college when you were a graduating senior and your current level of ability. If you're unfamiliar with, or have had no experience with, any of the following, select the "Weak/none" option.

8. **Define Problems and Generate Design Solutions.** Please rate your ability to do each of the following (1) when you were a graduating senior (SENIOR YEAR) and (2) currently (NOW):

SENIOR YEAR					Ability to... 1=Weak/none 2=Fair 3=Good 4=Very Good 5=Excellent	NOW				
1	2	3	4	5		1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Define design problems and objectives clearly and precisely.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Ask questions to understand what a client/customer really wants in a "product."	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Undertake a search (literature review, databases, benchmarking, reverse-engineering, etc.) before beginning team-based brainstorming.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Take into account the design contexts (social, cultural, economic, environmental, political, ethical, etc.) and the constraints they may impose on each possible solution.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Generate and prioritize criteria for evaluating the quality of a solution.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

SENIOR YEAR					Ability to... 1=Weak/none 2=Fair 3=Good 4=Very Good 5=Excellent	NOW				
1	2	3	4	5		1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Brainstorm possible engineering solutions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Apply systems thinking in developing solutions to an engineering problem.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Develop pictorial representations of possible designs (sketches, renderings, engineering drawings, etc.).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Evaluate design solutions based on a specified set of criteria.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Produce a product (prototype, program, simulation, etc.).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9. **Manage a Design Project.** Please rate your knowledge and ability in each of the following areas (1) when you were a graduating senior (SENIOR YEAR) and (2) currently (NOW):

SENIOR YEAR					Ability to... 1=Weak/none 2=Fair 3=Good 4=Very Good 5=Excellent	NOW				
1	2	3	4	5		1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Break down a design project into manageable components or tasks.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Identify team members' strengths/weaknesses and distribute tasks and workload accordingly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Recognize when changes to the original understanding of the problem may be necessary.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Monitor the design process to ensure goals are being met.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Put aside differences within a design team to get the work done.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. **Engineering Contexts.** Please rate your knowledge and ability in each of the following areas (1) when you were a graduating senior (SENIOR YEAR) and (2) currently (NOW):

SENIOR YEAR					Knowledge and Ability to... 1=Weak/none 2=Fair 3=Good 4=Very Good 5=Excellent	NOW				
1	2	3	4	5		1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Knowledge of contexts (social, political, economic, cultural, environmental, ethical, etc.) that might affect the solution to an engineering problem.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Knowledge of the connections between technological solutions and their implications for the society or groups they are intended to benefit.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Ability to use what you know about different cultures, social values, or political systems in developing engineering solutions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Ability to recognize how different contexts can change a problem solution.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. Communication. Please rate your ability to do each of the following (1) when you were a graduating senior (SENIOR YEAR) and (2) currently (NOW):

SENIOR YEAR					Ability to... 1=Weak/none 2=Fair 3=Good 4=Very Good 5=Excellent	NOW				
1	2	3	4	5		1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Write a well-organized, coherent report.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Make effective audiovisual presentations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Construct tables or graphs to communicate a solution.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Communicate effectively with clients, teammates, and supervisors.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Communicate effectively with <u>non-technical</u> audiences.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Communicate effectively with people from different cultures or countries.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12. Teamwork. Please rate your ability to do each of the following (1) when you were a graduating senior (SENIOR YEAR) and (2) currently (NOW):

SENIOR YEAR					Ability to... 1=Weak/none 2=Fair 3=Good 4=Very Good 5=Excellent	NOW				
1	2	3	4	5		1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Work with others to accomplish group goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Work in teams of people with a variety of skills and backgrounds.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Work in teams where knowledge and ideas from multiple engineering fields must be applied.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Work in teams that include people from fields <u>outside engineering</u> .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. Leadership. Please rate your ability to do each of the following (1) when you were a graduating senior (SENIOR YEAR) and (2) currently (NOW):

SENIOR YEAR					Ability to... 1=Weak/none 2=Fair 3=Good 4=Very Good 5=Excellent	NOW				
1	2	3	4	5		1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Help your group or organization work through periods when ideas are too many or too few.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Develop a plan to accomplish a group's or organization's goals.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Take responsibility for a group's or organization's performance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Motivate people to do the work that needs to be done.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14. Interdisciplinary Knowledge and Skills. Indicate your level of agreement with the following (1) when you were a graduating senior (SENIOR YEAR) and (2) currently (NOW):

SENIOR YEAR					Agreement with... 1=Strongly disagree 2=Disagree 3=Neither agree nor disagree 4=Agree 5=Strongly agree	NOW				
1	2	3	4	5		1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I value reading about topics outside of engineering (history, business, politics, the cultures of other parts of the world, etc.).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I enjoy thinking about how different fields approach the same problem in different ways.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Not all engineering problems have purely technical solutions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	In solving engineering problems I often seek information from experts in other academic fields.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Given knowledge and ideas from different fields, I can figure out what is appropriate for solving a problem.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I see connections between ideas in engineering and ideas in the humanities and social sciences.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I can take ideas from <u>outside engineering</u> and synthesize them in ways that help me better understand or explain a problem.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I can use what I have learned in one field in another setting or to solve a new problem.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

15 Recognizing Perspectives. Indicate your level of agreement with the following (1) when you were a graduating senior (SENIOR YEAR) and (2) currently (NOW):

SENIOR YEAR					Agreement with... 1=Strongly disagree 2=Disagree 3=Neither agree nor disagree 4=Agree 5=Strongly agree	NOW				
1	2	3	4	5		1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I often step back and reflect on what I am thinking to determine whether I might be missing something.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I frequently stop to think about where I might be going wrong or right with a problem solution.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	If asked, I could identify the kinds of knowledge and ideas that are distinctive to different fields of study (chemistry, psychology, literature, etc.).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I recognize the kinds of evidence that different fields of study rely on.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I'm good at figuring out what experts in different fields have missed in explaining a problem or proposing a solution.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I usually know when my own biases are getting in the way of my understanding of a problem or finding a solution.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

UNDERGRADUATE PROGRAM EMPHASES

16. Topics in Engineering. Overall, (1) how much did the courses in your undergraduate engineering program emphasize each of the following and (2) how important are they in your work now?

BACHELOR'S PROGRAM					Emphasis on... 1=Little/none 2=Slight 3=Moderate 4=High 5=Very high	IMPORTANCE NOW				
1	2	3	4	5		1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Ethical issues in practice.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	The importance of life-long learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Examining my beliefs and values and how they affect my ethical decisions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	The value of gender, racial/ethnic, or cultural diversity.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Working with people who differ from me in gender, race/ethnicity, or cultural background.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Creativity and innovation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Current workforce and economic trends (globalization, outsourcing, etc.).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Emerging technologies.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	How theories are used in practice.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

17. Professional Skills. Overall, (1) how much did the courses in your undergraduate engineering program emphasize each of the following and (2) how important are they in your work now?

BACHELOR'S PROGRAM					Emphasis on... 1=Little/none 2=Slight 3=Moderate 4=High 5=Very high	IMPORTANCE NOW				
1	2	3	4	5		1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Professional skills (knowing codes and standards, being on time, meeting deadlines, etc.).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Written and oral communication skills.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Leadership skills.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Working effectively in teams.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Working with multinational groups or teams.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Project management skills (budgeting, monitoring progress, managing people, etc.).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

18. Problem Solving. Overall, (1) how much did the courses in your undergraduate engineering program emphasize each of the following and (2) how important are they in your work now?

BACHELOR'S PROGRAM					Emphasis on... 1=Little/none 2=Slight 3=Moderate 4=High 5=Very high	IMPORTANCE NOW				
1	2	3	4	5		1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Understanding how a solution can be shaped by environmental, cultural, economic, and other considerations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<u>Understanding</u> how knowledge from several fields can help solve a problem.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<u>Applying</u> knowledge from several fields to solve a problem.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Systems thinking.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Defining a problem.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Generating and evaluating ideas about how to solve an engineering problem.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

UNDERGRADUATE EXPERIENCES

19. As an undergraduate student, approximately how many months did you spend participating in each of the following:

	# of months	
Undergraduate research activities		
Engineering internship(s)		
Engineering cooperative education experience		
Study abroad or an international school-related tour(s)		
Working on humanitarian engineering projects (Engineers without Borders, etc.)		
Non-engineering related community service or volunteer work		
Student design project(s)/competition(s) beyond class requirements		

20. As an undergraduate student, how active were you in the following activities:

	Not active	Slightly active	Moderately active	Highly active	Extremely active
An engineering club or student chapter of a professional society (IEEE, ASME, ASCE, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other engineering-related clubs or programs for women and/or minority students (e.g., NSBE, SHPE, SWE, WISE, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other clubs or activities (hobbies, civic or church organizations, campus publications, student government, Greek life, sports, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

21. Do you agree or disagree with the following statements?

During my undergraduate career:	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Some engineering students used offensive words, behaviors, or gestures directed at students because of their <u>gender</u> .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Some engineering students used offensive words, behaviors, or gestures directed at students because of their <u>race/ethnicity</u> .	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My <u>gender</u> influenced my choice of engineering field.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My <u>race/ethnicity</u> influenced my choice of engineering field.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

CURRENT PROFESSIONAL SITUATION

22. What degree(s) do you hold? (Please check all that apply.)

	In Engineering	Outside Engineering
Bachelor's	<input type="radio"/>	<input type="radio"/>
Master's	<input type="radio"/>	<input type="radio"/>
Doctorate	<input type="radio"/>	<input type="radio"/>

23. Are you currently enrolled in a graduate program?

- No
- Yes →

24. What degree are you seeking?

- MA/MS/M Eng
- MBA
- JD
- MD/DDS
- PhD
- Other

25. In what field will you earn your graduate degree?

- Bio-medical/Bio-engineering
- Chemical engineering
- Civil engineering
- Electrical engineering
- General engineering/Engineering Science
- Industrial engineering
- Mechanical engineering
- Other engineering field
- Business
- Law
- Medicine
- Other field (not in engineering)

26. What is your primary employment status?

- Employed full-time
- Employed part-time
- Self-employed
- Employed as a graduate assistant
- Not currently employed

27. Since completing my undergraduate degree, I have: (Please select all that apply.)

- Taken credit-bearing courses from a college or university (in any format)
- Participated in required training through my employer
- Participated in voluntary training through my employer
- Taken courses offered by an organization other than my employer and not associated with a university or college
- None of the above

Directions: If you are presently employed, please complete the questions on this page. If you are not presently employed, please continue to Question 31 on the next page.

28. Which one of the following best describes your (if self-employed) or your employer's primary business activity? [Categories of the North American Industry Classification System]

- Accommodation or food services
- Administrative or support or waste management remediation services
- Agriculture, forestry, fishing or hunting
- Arts, entertainment, or recreation
- Construction
- Educational services
- Finance and insurance
- Health care or social assistance
- Information
- Management of companies or enterprises
- Manufacturing
- Mining (including oil and gas)
- Professional, scientific, or technical services
- Public administration (government, civil service, military)
- Real estate or rental leasing
- Retail trade
- Transportation or warehousing
- Utilities
- Wholesale trade
- Other (please specify): _____

29. Which one of the following best describes your primary job function?

- | | |
|--|---|
| <input type="radio"/> Business/finance | <input type="radio"/> Marketing/sales |
| <input type="radio"/> Consultant | <input type="radio"/> Production, installation, delivery of services |
| <input type="radio"/> Faculty/academic professional | <input type="radio"/> Supervisor of professional/technical/research personnel |
| <input type="radio"/> Human resources | <input type="radio"/> Professional/technical/research personnel |
| <input type="radio"/> Information/technology/network support | <input type="radio"/> Research/development/testing |
| <input type="radio"/> Management/administration/executive | <input type="radio"/> Other (please specify): _____ |

30. How closely are your current job responsibilities related to your undergraduate engineering degree?

- Directly related
- Somewhat related
- Not related

31. Please indicate whether you agree or disagree with each of the following statements.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
My gender has been a disadvantage in my engineering career.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My race/ethnicity has been a disadvantage in my engineering career.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

32. Have you taken the Fundamentals of Engineering (FE) exam?

No

Yes, in (most recent year): Did you pass? Yes No

33. Do you have, or are you working towards, your professional engineer's (PE) license?

Yes

No

Thank you very much for your participation!
Please return the survey in the postage-paid envelope provided.