

# Preparing the Engineer of 2020

## Community and Two-Year College Survey



This study is funded by the National Science Foundation  
and endorsed by the following associations and  
professional engineering societies:



**Preparing the Engineer of 2020  
Community and Two-Year College Survey**

1. How likely is it that you will transfer to a four-year college or university and enroll in a bachelor's degree program in engineering?

- Definitely will
- Probably will
- Not sure
- Probably won't
- Definitely won't



If you have answered "Probably won't" or "Definitely won't" you have given us the information we need. Please return the survey in the enclosed envelope. There is no need to complete additional questions.

**PERSONAL INFORMATION**

2. Number of community or two-year college credits earned to date (including current registration):

|  |  |  |
|--|--|--|
|  |  |  |
|--|--|--|

credits

3. In what engineering field are you most likely to get your bachelor's degree?

- |                                                   |                                                                      |
|---------------------------------------------------|----------------------------------------------------------------------|
| <input type="radio"/> Haven't decided             | <input type="radio"/> General engineering or engineering science     |
| <input type="radio"/> Bio-medical/bio-engineering | <input type="radio"/> Industrial engineering                         |
| <input type="radio"/> Chemical engineering        | <input type="radio"/> Mechanical engineering                         |
| <input type="radio"/> Civil engineering           | <input type="radio"/> Other engineering discipline (please specify): |
| <input type="radio"/> Electrical engineering      | _____                                                                |

4. Have you attended any other colleges or universities prior to this one?

- No, this is the first college I have attended.
- Yes, I attended another two-year college
- Yes, I attended a four-year college or university
- Yes, I attended a vocational school (truck driving school, cosmetology, etc.).

5. What is your gender?

- Man
- Woman

| 6. How old:                                                           |                                                                                                                                                                                            |  |  |       |
|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|-------|
| a. Are you now?                                                       | <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> |  |  | years |
|                                                                       |                                                                                                                                                                                            |  |  |       |
| b. Were you when you first entered college anywhere?                  | <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> |  |  | years |
|                                                                       |                                                                                                                                                                                            |  |  |       |
| c. Were you when you entered this community or two-year college?      | <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> |  |  | years |
|                                                                       |                                                                                                                                                                                            |  |  |       |
| d. Do you think you will be when you complete your bachelor's degree? | <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table> |  |  | years |
|                                                                       |                                                                                                                                                                                            |  |  |       |

**7. Are you: (select all that apply)**

- African American
- Asian American
- Hispanic/Latino/a American
- Native American
- Caucasian
- Foreign national (i.e., citizen of another country)
- Naturalized U.S. citizen
- Other (please specify): \_\_\_\_\_

| 8. What is the <u>highest</u> level of formal schooling that you and each of your parents/guardians have completed? (Mark <b>ONLY ONE</b> oval per column). | You                   | Mother/<br>Guardian   | Father/<br>Guardian   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|
| a. Did not finish high school                                                                                                                               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. High school graduate/GED                                                                                                                                 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. Attended college but did not receive a degree                                                                                                            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. Vocational/technical certificate or diploma                                                                                                              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e. Associate or other 2-year degree                                                                                                                         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| f. Bachelor's or other 4-year degree                                                                                                                        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| g. Master's degree (M.A., M.S., M.B.A., etc.)                                                                                                               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| h. Doctorate degree (Ph.D., J.D., M.D., etc.)                                                                                                               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

**9. 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 Critical Reading    SAT Writing    SAT Math
- Yes, I took the ACT exam, and my Composite score was approximately:

**10. What was/is your approximate overall academic average in high school and community or two-year college?**

|                             | High School           | Community or Two-Year College |
|-----------------------------|-----------------------|-------------------------------|
| a. 1.49 or below (below C-) | <input type="radio"/> | <input type="radio"/>         |
| b. 1.50 - 1.99 (C- to C)    | <input type="radio"/> | <input type="radio"/>         |
| c. 2.00 - 2.49 (C to B-)    | <input type="radio"/> | <input type="radio"/>         |
| d. 2.50 - 2.99 (B- to B)    | <input type="radio"/> | <input type="radio"/>         |
| e. 3.00 - 3.49 (B to A-)    | <input type="radio"/> | <input type="radio"/>         |
| f. 3.50 or above (A- to A)  | <input type="radio"/> | <input type="radio"/>         |
| g. Not applicable           | <input type="radio"/> | <input type="radio"/>         |

## ACADEMIC SKILLS

**Instructions:** In the following section, you will be asked to rate your skill level and abilities in a variety of areas. If you're unfamiliar with, or have had no experience with, any of these, select the "Weak/none" option.

|                                                                                                                                                |                       |                       |                       |                       |                       |
|------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <b>11. <u>Applying Math &amp; Science.</u></b>                                                                                                 |                       |                       |                       |                       |                       |
| <b>Please rate your ability to apply:</b>                                                                                                      | <b>Weak/<br/>None</b> | <b>Fair</b>           | <b>Good</b>           | <b>Very<br/>Good</b>  | <b>Excellent</b>      |
| a. Math to real-world problems.                                                                                                                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. The physical sciences to real-world problems.                                                                                               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. Computer tools and applications to real-world problems.                                                                                     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. Life sciences to real-world problems.                                                                                                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <b>12. <u>Problem-Solving Considerations.</u></b>                                                                                              |                       |                       |                       |                       |                       |
| <b>Please rate your:</b>                                                                                                                       | <b>Weak/<br/>None</b> | <b>Fair</b>           | <b>Good</b>           | <b>Very<br/>Good</b>  | <b>Excellent</b>      |
| a. Knowledge of contexts (social, political, economic, cultural, environmental, ethical, etc.) that might affect the solution to a problem.    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. 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"/> |
| c. Ability to use what you know about different cultures, social values, or political systems in developing problem solutions.                 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. 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"/> |
| <b>13. <u>Communication.</u></b>                                                                                                               |                       |                       |                       |                       |                       |
| <b>Please rate your ability to:</b>                                                                                                            | <b>Weak/<br/>None</b> | <b>Fair</b>           | <b>Good</b>           | <b>Very<br/>Good</b>  | <b>Excellent</b>      |
| a. Write a well-organized, coherent report.                                                                                                    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. Make effective audiovisual presentations.                                                                                                   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. Construct tables or graphs to communicate a solution.                                                                                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. Make myself understood in conversations with others.                                                                                        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e. Communicate effectively with people from different cultures or countries.                                                                   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

| <b>14. <u>Teamwork.</u></b>                                                                 |                       |                       |                       |                       |                       |
|---------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <b>Please rate your ability to:</b>                                                         | <b>Weak/<br/>None</b> | <b>Fair</b>           | <b>Good</b>           | <b>Very<br/>Good</b>  | <b>Excellent</b>      |
| a. Work with others to accomplish group goals.                                              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. 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"/> |
| c. Work in teams where knowledge and ideas from multiple fields must be applied.            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| <b>15. <u>Leadership.</u></b>                                                               |                       |                       |                       |                       |                       |
| <b>Please rate your ability to:</b>                                                         | <b>Weak/<br/>None</b> | <b>Fair</b>           | <b>Good</b>           | <b>Very<br/>Good</b>  | <b>Excellent</b>      |
| a. 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"/> |
| b. Develop a plan to accomplish a group or organization's goals.                            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. Take responsibility for group or organizational performance.                             | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. 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"/> |

### PROGRAM EMPHASES

| <b>16. <u>Applying Math &amp; Science.</u></b>                                           |                               |                            |                              |                            |                                     |
|------------------------------------------------------------------------------------------|-------------------------------|----------------------------|------------------------------|----------------------------|-------------------------------------|
| <b>Overall, how much have the courses you've taken emphasized each of the following:</b> | <b>Little/No<br/>Emphasis</b> | <b>Slight<br/>Emphasis</b> | <b>Moderate<br/>Emphasis</b> | <b>Strong<br/>Emphasis</b> | <b>Very<br/>Strong<br/>Emphasis</b> |
| a. Applying math to solve real-world problems.                                           | <input type="radio"/>         | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/>      | <input type="radio"/>               |
| b. Applying physical sciences to real-world problems.                                    | <input type="radio"/>         | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/>      | <input type="radio"/>               |
| c. Applying life sciences to real-world problems.                                        | <input type="radio"/>         | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/>      | <input type="radio"/>               |
| d. Designing and carrying out experiments.                                               | <input type="radio"/>         | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/>      | <input type="radio"/>               |
| e. Using computer tools and applications.                                                | <input type="radio"/>         | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/>      | <input type="radio"/>               |
| <b>17. <u>Professional Skills.</u></b>                                                   |                               |                            |                              |                            |                                     |
| <b>Overall, how much have the courses you've taken emphasized each of the following:</b> | <b>Little/No<br/>Emphasis</b> | <b>Slight<br/>Emphasis</b> | <b>Moderate<br/>Emphasis</b> | <b>Strong<br/>Emphasis</b> | <b>Very<br/>Strong<br/>Emphasis</b> |
| a. Professional skills (being on time, meeting deadlines, etc.).                         | <input type="radio"/>         | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/>      | <input type="radio"/>               |
| b. Written and oral communication skills.                                                | <input type="radio"/>         | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/>      | <input type="radio"/>               |
| c. Leadership skills.                                                                    | <input type="radio"/>         | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/>      | <input type="radio"/>               |
| d. Working effectively in teams.                                                         | <input type="radio"/>         | <input type="radio"/>      | <input type="radio"/>        | <input type="radio"/>      | <input type="radio"/>               |

| <b>18. Other Topics.</b><br><b>Overall, how much have the courses you've taken emphasized each of the following:</b> | <b>Little/No Emphasis</b> | <b>Slight Emphasis</b> | <b>Moderate Emphasis</b> | <b>Strong Emphasis</b> | <b>Very Strong Emphasis</b> |
|----------------------------------------------------------------------------------------------------------------------|---------------------------|------------------------|--------------------------|------------------------|-----------------------------|
| a. Ethical issues in engineering practice.                                                                           | <input type="radio"/>     | <input type="radio"/>  | <input type="radio"/>    | <input type="radio"/>  | <input type="radio"/>       |
| b. The importance of life-long learning.                                                                             | <input type="radio"/>     | <input type="radio"/>  | <input type="radio"/>    | <input type="radio"/>  | <input type="radio"/>       |
| c. 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"/>       |
| d. The value of gender, racial/ethnic, or cultural diversity in the workplace.                                       | <input type="radio"/>     | <input type="radio"/>  | <input type="radio"/>    | <input type="radio"/>  | <input type="radio"/>       |
| e. Creativity and innovation.                                                                                        | <input type="radio"/>     | <input type="radio"/>  | <input type="radio"/>    | <input type="radio"/>  | <input type="radio"/>       |
| f. Current workforce and economic trends (globalization, outsourcing, etc.).                                         | <input type="radio"/>     | <input type="radio"/>  | <input type="radio"/>    | <input type="radio"/>  | <input type="radio"/>       |
| g. Emerging engineering technologies.                                                                                | <input type="radio"/>     | <input type="radio"/>  | <input type="radio"/>    | <input type="radio"/>  | <input type="radio"/>       |
| h. How theories are used in engineering practice.                                                                    | <input type="radio"/>     | <input type="radio"/>  | <input type="radio"/>    | <input type="radio"/>  | <input type="radio"/>       |

| <b>19. During the past year, approximately how many times did you:</b>                                                | <b>0</b>              | <b>1-3</b>            | <b>4-6</b>            | <b>7-10</b>           | <b>11 or more</b>     |
|-----------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| a. Use the services of a "learning/tutoring" center at your community or two-year college.                            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. Speak to an advisor or instructor at your community or two-year college about transferring to a four-year college. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. Speak to an advisor or instructor at a four-year college about transferring.                                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. Attend a presentation by someone from a four-year college about transfer requirements and procedures.              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

| <b>20. How much do you rely on the following for help <u>selecting courses and planning your academic program</u>?</b> | <b>Little/Not at All</b> | <b>Somewhat</b>       | <b>Moderately</b>     | <b>A Great Deal</b>   |
|------------------------------------------------------------------------------------------------------------------------|--------------------------|-----------------------|-----------------------|-----------------------|
| a. Advising center staff                                                                                               | <input type="radio"/>    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. My official faculty advisor                                                                                         | <input type="radio"/>    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. A faculty member who is <i>not</i> my official advisor                                                              | <input type="radio"/>    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. Students in my program                                                                                              | <input type="radio"/>    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e. Family and non-school friends                                                                                       | <input type="radio"/>    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| f. Web sites                                                                                                           | <input type="radio"/>    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

| 21. How much do you rely on the following for information <u>on how to transfer to a four-year institution?</u> | Little/<br>Not at All | Somewhat              | Moderately            | A Great Deal          |
|-----------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| a. Advising center staff                                                                                        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. My official faculty advisor                                                                                  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. A faculty member who is <i>not</i> my official advisor                                                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. Students in my program                                                                                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e. Family and non-school friends                                                                                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| f. Web sites                                                                                                    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

| 22. <u>During the past six months</u> , approximately how many times did you meet outside of class with a faculty member to: (count only conversations of 10 minutes or more) |                                                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| a. Discuss academic or course-related matters                                                                                                                                 | <input type="text"/> <input type="text"/> times |
| b. Ask about careers or get professional advice                                                                                                                               | <input type="text"/> <input type="text"/> times |
| c. Talk informally                                                                                                                                                            | <input type="text"/> <input type="text"/> times |

**23. What was the first math course you completed in college?**

- Math required prior to algebra
- Another math course (algebra, geometry, trigonometry, pre-calculus, etc.)
- Calculus or above

| 24. In courses at your community or two-year college, how often have your instructors: | Never                 | Rarely                | Some-times            | Often                 | Very Often            |
|----------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| a. Set clear expectations for performance                                              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. Only covered what was in the textbook                                               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. Conveyed the same material in multiple ways (in writing, diagrams, orally, etc.)    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. Explained new concepts by linking them to what students already know                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e. Used examples, cases, or metaphors to explain concepts                              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| f. Answered questions or gone over material until students "got it"                    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| g. Provided guidance or training in how to work effectively in groups                  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| h. Lectured                                                                            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| i. Provided hands-on activities and/or assignments                                     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| j. Used in-class, small group learning                                                 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| k. Assigned group projects                                                             | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

| 25. In your courses, do:                                                                                         | Never                 | Rarely                | Some-times            | Often                 | Very Often            |
|------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| a. Some male students treat other male students better than female students                                      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. Some white students treat other white students better than non-white students                                 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. <i>When working in groups</i> , some male students treat other male students better than female students      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. <i>When working in groups</i> , some white students treat other white students better than non-white students | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e. Some instructors treat male students better than female students                                              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| f. Some instructors treat white students better than non-white students                                          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| g. Women students get treated better than male students.                                                         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| h. Minority students get treated better than white students.                                                     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |



| 26. Please indicate your level of agreement with each of the following statements: | Strongly Disagree     | Disagree              | Neither Agree nor Disagree | Agree                 | Strongly Agree        |
|------------------------------------------------------------------------------------|-----------------------|-----------------------|----------------------------|-----------------------|-----------------------|
| a. My gender has or will influence my choice of engineering field.                 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>      | <input type="radio"/> | <input type="radio"/> |
| b. My gender will negatively influence my engineering career.                      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>      | <input type="radio"/> | <input type="radio"/> |
| c. My race/ethnicity will negatively influence my choice of engineering field.     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>      | <input type="radio"/> | <input type="radio"/> |
| d. My race/ethnicity will negatively influence my engineering career.              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>      | <input type="radio"/> | <input type="radio"/> |

### ENGINEERING TRANSFER ISSUES

**27. Why might you choose a major other than engineering? (select all that apply)**

- Lack of employment in engineering
- Difficulty of engineering courses
- Not able to get into engineering program
- More credits transfer into other majors
- Lack of engineering transfer agreement
- Engineering takes longer than other majors
- Engineering tuition is more expensive than other majors
- Lack of gender or racial/ethnic diversity in engineering

| 28. How important were the following in your decision to begin your degree at a community or two-year college: | Not at All            | Slightly              | Moderately            | Very                  | Extremely             |
|----------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| a. Cost                                                                                                        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. Close to home/family/friends                                                                                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. I knew I would get in                                                                                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. I applied but wasn't accepted to a four-year school                                                         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e. Received financial aid                                                                                      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| f. Family/work obligations                                                                                     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| g. Flexible course scheduling (evenings, weekends)                                                             | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| h. On-campus childcare                                                                                         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| i. English as a Second Language program                                                                        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| j. Transfer agreement with a four-year engineering program                                                     | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| k. Diverse student population                                                                                  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| l. Good place to find out if I was ready for college-level courses                                             | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

| 29. How important will the following be to you in deciding whether to transfer to a four-year engineering program: | Not at all Important  | Slightly Important    | Moderately Important  | Very Important        | Extremely Important   |
|--------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| a. Number of credits that will transfer                                                                            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. Availability of transfer advisors at my college                                                                 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. Good information on transferring                                                                                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. Visiting the four-year school                                                                                   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e. Speaking with an advisor at the four-year school                                                                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| f. Meeting with instructors or sitting in on classes at the four-year school                                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| g. Talking with students at the four-year school                                                                   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

| 30. How much of a problem would the following be in transferring to a four-year college or university engineering program? <u>Please answer even if you are not sure you will transfer.</u> | Not a Problem         | Minor Problem         | Big Problem           | Major Roadblock       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| a. Long commute or need to relocate                                                                                                                                                         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| b. Cost of attendance                                                                                                                                                                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| c. Need to quit or reduce hours on current job(s)                                                                                                                                           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| d. High academic expectations                                                                                                                                                               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| e. Family obligations                                                                                                                                                                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| f. The transfer credit process                                                                                                                                                              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| g. Not sure the faculty, staff, or students will make me feel welcome                                                                                                                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| h. My English language skills                                                                                                                                                               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| i. Large size of engineering school                                                                                                                                                         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| j. Students compete rather than help one another                                                                                                                                            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| k. Length of time needed to complete a bachelor's degree                                                                                                                                    | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

31. How likely are you to complete an associate's degree before transferring?

- Definitely won't    Probably won't    Not sure    Probably will    Definitely will

32. How many more years do you think you will need to complete your bachelor's degree in engineering?

|                      |                      |
|----------------------|----------------------|
| <input type="text"/> | <input type="text"/> |
|----------------------|----------------------|

 years

### ADDITIONAL INFORMATION

| 33. In a typical week, how many hours do you spend:                                          |                                                      |
|----------------------------------------------------------------------------------------------|------------------------------------------------------|
| a. Preparing for class (studying, doing homework or lab work, and other academic activities) | <input type="text"/> <input type="text"/> hours/week |
| b. Working for pay                                                                           | <input type="text"/> <input type="text"/> hours/week |
| c. Meeting family responsibilities (care of siblings, children, other family members)        | <input type="text"/> <input type="text"/> hours/week |
| d. Commuting to and from school or work                                                      | <input type="text"/> <input type="text"/> hours/week |

34. Have you been enrolled at your current institution primarily:

- Full-time  
 Part-time

35. Are you currently:

- a. Taking classes at a 4-year institution?    Yes    No  
b. In a formal dual-enrollment program with a 4-year institution?    Yes    No

36. Not counting yourself, how many individuals are financially dependent on you (including children, parents, and other adults)?

- None
- 1
- 2
- 3
- 4 or more

37. Is English your native language?  Yes  No

| 38. Have you had to <u>repeat</u> one or more college courses in any of the following areas? | Yes                   | No                    |
|----------------------------------------------------------------------------------------------|-----------------------|-----------------------|
| a. Chemistry                                                                                 | <input type="radio"/> | <input type="radio"/> |
| b. Engineering                                                                               | <input type="radio"/> | <input type="radio"/> |
| c. English/communications                                                                    | <input type="radio"/> | <input type="radio"/> |
| d. Mathematics                                                                               | <input type="radio"/> | <input type="radio"/> |
| e. Physics                                                                                   | <input type="radio"/> | <input type="radio"/> |

**Thank you very much for your participation!**

Please return the survey in the postage-paid envelope provided or mail to:

Penn State University  
Survey Research Center  
605 Marion Place  
University Park, PA 16802