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 <u>and</u> enroll in a bachelor's degree program in engineering? 							
	O Definitely will							
	O Probably will	If any house an arranged HDrock althouse HD offer	- ! 4 - 1-					
	O Not sure have given us the information we need. Please return the su							
	O Probably won't in the enclosed envelope. There is no need to complete							
	O Definitely won't	additional questions.						
	·	PERSONAL INFORMATION						
2		r two-year college credits earned to date (includir	ng cı	urrent				
	registration):	credits						
		Greate						
3	3. In what engineering field	d are you most likely to get your bachelor's degree	e?					
	O Haven't decided	O General engineering or engineering science	€					
	O Bio-medical/bio-enginee	ering O Industrial engineering						
	O Chemical engineering	O Mechanical engineering						
	O Civil engineering	O Other engineering discipline (please specify	/):					
	O Electrical engineering							
4	4. Have you attended any o	other colleges or universities prior to this one?						
	O No, this is the first collect	ge I have attended.						
	O Yes, I attended another	two-year college						
	O Yes, I attended a four-ye	ear college or university						
	O Yes, I attended a vocati	onal school (truck driving school, cosmetology, etc.).						
F	5. What is your gender?							
•	O Man							
	O Woman							
	• Woman							
ſ	6. How old:							
ŀ	o. How old.							
l	a. Are you now?			years				
	b. Were you when you first	t entered college anywhere?		years				
	c. Were you when you ente	ered this community or two-year college?		years				
ſ	d. Do you think you will be when you complete your bachelor's degree? years							

7. Are you: (select all that apply)

O African American O Caucasian

O Asian American O Foreign national (i.e., citizen of another country)

O Hispanic/Latino/a American O Naturalized U.S. citizen

O Native American O Other (please specify):

8. What is the <u>highest</u> level of formal schooling that you and each of your parents/guardians have competed? (Mark ONLY ONE oval per column).	You	Mother/ Guardian	Father/ Guardian
a. Did not finish high school	0	0	0
b. High school graduate/GED	0	0	0
c. Attended college but did not receive a degree	0	0	0
d. Vocational/technical certificate or diploma	0	0	0
e. Associate or other 2-year degree	0	0	0
f. Bachelor's or other 4-year degree	0	0	0
g. Master's degree (M.A., M.S., M.B.A., etc.)	0	0	0
h. Doctorate degree (Ph.D., J.D., M.D., etc.)	0	0	0

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

O Yes, I took the SAT exam, and my scores were approximately:										
SAT Critical Reading			SAT Writing				SAT Math			

O 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-)	0	0
b. 1.50 - 1.99 (C- to C)	0	0
c. 2.00 - 2.49 (C to B-)	0	0
d. 2.50 - 2.99 (B- to B)	0	0
e. 3.00 - 3.49 (B to A-)	0	0
f. 3.50 or above (A- to A)	0	0
g. Not applicable	0	0

ACADEMIC SKILLS

<u>Instructions</u>: 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.

11	. Applying Math & Science.	Weak/	F-!	01	Very	F (1(
	Please rate your ability to apply:	None	Fair	Good	Good	Excellent
a.	Math to real-world problems.	0	0	0	0	0
b.	The physical sciences to real-world problems.	0	0	0	0	0
C.	Computer tools and applications to real-world problems.	0	0	0	0	0
d.	Life sciences to real-world problems.	0	0	0	0	0
12	. Problem-Solving Considerations.	Weak/			Very	
	Please rate your:	None	Fair	Good	Good	Excellent
a.	Knowledge of contexts (social, political, economic, cultural, environmental, ethical, etc.) that might affect the solution to a problem.	0	0	0	0	0
b.	Knowledge of the connections between technological solutions and their implications for the society or groups they are intended to benefit.	0	0	0	0	0
c.	Ability to use what you know about different cultures, social values, or political systems in developing problem solutions.	0	0	0	0	0
d.	Ability to recognize how different contexts can change a problem solution.	0	0	0	0	0
13	. Communication.	Weak/			Very	
	Please rate your ability to:	None	Fair	Good	Good	Excellent
a.	Write a well-organized, coherent report.	0	0	0	0	0
b.	Make effective audiovisual presentations.	0	0	0	0	0
C.	Construct tables or graphs to communicate a solution.	0	0	0	0	0
d.	Make myself understood in conversations with others.	0	0	0	0	0
e.	Communicate effectively with people from different cultures or countries.	0	0	0	0	0

14.	. <u>Teamwork</u> . Please rate your ability to:	Weak/ None	Fair	Good	Very Good	Excellent
a.	Work with others to accomplish group goals.	0	0	0	0	0
b.	Work in teams of people with a variety of skills and backgrounds.	0	0	0	0	0
C.	Work in teams where knowledge and ideas from multiple fields must be applied.	0	0	0	0	0
15.	. <u>Leadership</u> . Please rate your ability to:	Weak/ None	Fair	Good	Very Good	Excellent
a.	Help your group or organization work through periods when ideas are too many or too few.	0	0	0	0	0
b.	Develop a plan to accomplish a group or organization's goals.	0	0	0	0	0
C.	Take responsibility for group or organizational performance.	0	0	0	0	0
d.	Motivate people to do the work that needs to be done.	0	0	0	0	0

PROGRAM EMPHASES

16. Applying Math & Science. Overall, how much have the courses you've taken emphasized each of the following:	Little/No Emphasis	Slight Emphasis	Moderate Emphasis	Strong Emphasis	Very Strong Emphasis
a. Applying math to solve real-world problems.	0	0	0	0	0
 Applying physical sciences to real-world problems. 	0	0	0	0	0
c. Applying life sciences to real-world problems.	0	0	0	0	0
d. Designing and carrying out experiments.	0	0	0	0	0
e. Using computer tools and applications.	0	0	0	0	0
17. Professional Skills.					Very
Overall, how much have the courses you've taken emphasized each of the following:	Little/No Emphasis	Slight Emphasis	Moderate Emphasis	Strong Emphasis	Strong Emphasis
a. Professional skills (being on time, meeting deadlines, etc.).	0	0	0	0	0
b. Written and oral communication skills.	0	0	0	0	0
c. Leadership skills.	0	0	0	0	0
d. Working effectively in teams.	0	0	0	0	0

18	. Other Topics.					Very
	verall, how much have the courses you've ken emphasized each of the following:	Little/No Emphasis	Slight Emphasis	Moderate Emphasis	Strong Emphasis	Strong Emphasis
a.	Ethical issues in engineering practice.	0	0	0	0	0
b.	The importance of life-long learning.	0	0	0	0	0
C.	Examining my beliefs and values and how they affect my ethical decisions.	0	0	0	0	0
d.	The value of gender, racial/ethnic, or cultural diversity in the workplace.	0	0	0	0	0
e.	Creativity and innovation.	0	0	0	0	0
f.	Current workforce and economic trends (globalization, outsourcing, etc.).	0	0	0	0	0
g.	Emerging engineering technologies.	0	0	0	0	0
h.	How theories are used in engineering practice.	0	0	0	0	0

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

20	. How much do you rely on the following for help selecting courses and planning your academic program?	Little/ Not at All	Somewhat	Moderately	A Great Deal
a.	Advising center staff	0	0	0	0
b.	My official faculty advisor	0	0	0	0
c.	A faculty member who is <i>not</i> my official advisor	0	0	0	0
d.	Students in my program	0	0	0	0
e.	Family and non-school friends	0	0	0	0
f.	Web sites	0	0	0	0

21. How much do you rely on the following for information on how to transfer to a four-year institution?	Little/ Not at All	Somewhat	Moderately	A Great Deal
a. Advising center staff	0	0	0	0
b. My official faculty advisor	0	0	0	0
c. A faculty member who is <i>not</i> my official advisor	0	0	0	0
d. Students in my program	0	0	0	0
e. Family and non-school friends	0	0	0	0
f. Web sites	0	0	0	0

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	times				
b. Ask about careers or get professional advice	times				
c. Talk informally	times				

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

- O Math required prior to algebra
- O Another math course (algebra, geometry, trigonometry, pre-calculus, etc.)
- O 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	0	0	0	0	0
b. Only covered what was in the textbook	0	0	0	0	0
c. Conveyed the same material in multiple ways (in writing, diagrams, orally, etc.)	0	0	0	0	0
d. Explained new concepts by linking them to what students already know	0	0	0	0	0
e. Used examples, cases, or metaphors to explain concepts	0	0	0	0	0
f. Answered questions or gone over material until students "got it"	0	0	0	0	0
g. Provided guidance or training in how to work effectively in groups	0	0	0	0	0
h. Lectured	0	0	0	0	0
i. Provided hands-on activities and/or assignments	0	0	0	0	0
j. Used in-class, small group learning	0	0	0	0	0
k. Assigned group projects	0	0	0	0	0

2	5. In your courses, do:	Never	Rarely	Some- times	Often	Very Often
a.	Some male students treat other male students better than female students	0	0	0	0	0
b.	Some white students treat other white students better than non-white students	0	0	0	0	0
C.	When working in groups, some male students treat other male students better than female students	0	0	0	0	0
d.	When working in groups, some white students treat other white students better than non-white students	0	0	0	0	0
e.	Some instructors treat male students better than female students	0	0	0	0	0
f.	Some instructors treat white students better than non-white students	0	0	0	0	0
g.	Women students get treated better than male students.	0	0	0	0	0
h.	Minority students get treated better than white students.	0	0	0	0	0

26	5. Please indicate your level of agreement with each of the following statements:	Strongly	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
a.	My gender has or will influence my choice of engineering field.	0	0	0	0	0
b.	My gender will negatively influence my engineering career.	0	0	0	0	0
C.	My race/ethnicity will negatively influence my choice of engineering field.	0	0	0	0	0
d.	My race/ethnicity will negatively influence my engineering career.	0	0	0	0	0

ENGINEERING TRANSFER ISSUES

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

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

28	3. How important were the following in your decision to begin your degree at a community or two-year college:	Not at	Slightly	Moderately	Very	Extremely
a.	Cost	0	0	0	0	0
b.	Close to home/family/friends	0	0	0	0	0
C.	I knew I would get in	0	0	0	0	0
d.	I applied but wasn't accepted to a four-year school	0	0	0	0	0
e.	Received financial aid	0	0	0	0	0
f.	Family/work obligations	0	0	0	0	0
g.	Flexible course scheduling (evenings, weekends)	0	0	0	0	0
h.	On-campus childcare	0	0	0	0	0
i.	English as a Second Language program	0	0	0	0	0
j.	Transfer agreement with a four-year engineering program	0	0	0	0	0
k.	Diverse student population	0	0	0	0	0
l.	Good place to find out if I was ready for college-level courses	0	0	0	0	0

29	P. How important will the following be to you in deciding whether to transfer to a four-year engineering program:	Not at all Important		Moderately Important		Extremely Important
a.	Number of credits that will transfer	0	0	0	0	0
b.	Availability of transfer advisors at my college	0	0	0	0	0
C.	Good information on transferring	0	0	0	0	0
d.	Visiting the four-year school	0	0	0	0	0
e.	Speaking with an advisor at the four-year school	0	0	0	0	0
f.	Meeting with instructors or sitting in on classes at the four-year school	0	0	0	0	0
g.	Talking with students at the four-year school	0	0	0	0	0

30	. How much of a problem would the following be in transferring to a four-year college or university engineering program? Please answer even if you are not sure you will transfer.	Not a Problem	Minor Problem	Big Problem	Major Roadblock
a.	Long commute or need to relocate	0	0	0	0
b.	Cost of attendance	0	0	0	0
c.	Need to quit or reduce hours on current job(s)	0	0	0	0
d.	High academic expectations	0	0	0	0
e.	Family obligations	0	0	0	0
f.	The transfer credit process	0	0	0	0
g.	Not sure the faculty, staff, or students will make me feel welcome	0	0	0	0
h.	My English language skills	0	0	0	0
i.	Large size of engineering school	0	0	0	0
j.	Students compete rather than help one another	0	0	0	0
k.	Length of time needed to complete a bachelor's degree	0	0	0	0

31. How likely are you to complete an associate's degree before transferring?							
O Definitely won't O Probably won't O Not sure O Probably will	O Definitely will						
32. How many more years do you think you will need to complete your bachelor's degree in engineering? 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)	hours/week						
b. Working for pay	hours/week						
c. Meeting family responsibilities (care of siblings, children, other family members	hours/week						
d. Commuting to and from school or work	hours/week						
34. Have you been enrolled at your current institution primarily: O Full-time O Part-time							
35. Are you currently: a. Taking classes at a 4-year institution? O Yes O No							
b. In a formal dual-enrollment program with a 4-year institution? OY	es O No						

36	(including children, parents, and other adults)?	you
	O None	
	01	
	O 2	
	O 3	
	O 4 or more	

37. Is English your native language? O Yes O No

38. Have you had to repeat one or more college courses in any of the following areas?	Yes	No
a. Chemistry	0	0
b. Engineering	0	0
c. English/communications	0	0
d. Mathematics	0	0
e. Physics	0	0

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