

Expanding STEM Talent Through Upward Transfer

First Follow-Up Survey (Fall 2015/Spring 2016)

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EXPANDING STEM TALENT

We are hoping to learn about your educational experiences, goals, and plans since Fall 2014 when you participated in our Expanding STEM Talent survey. The insights you share with us about your educational and life journey as a student who started at [INSTITUTION] will greatly help us assist individuals like you to achieve success in and beyond college.

1. Are you still enrolled at [INSTITUTION]?

- Yes → **Go to question 42**
- No, I have transferred to a four-year college or university → **Go to question 5**
- No, I have transferred to another two-year college
- No, I am NOT attending college right now → **Go to question 39**

2. What is your primary goal in attending your current college? Please choose only one.

- Transfer to a four-year college or university
- Earning a degree, a diploma, or a certificate to gain entry or reentry into the workforce
- Taking a few courses to gain entry or reentry into the workforce
- Enhance performance in current employment position
- Taking courses for self-improvement—not seeking a credential or for employment-related purposes

3. What is the highest credential you plan to obtain from your current college?

- None
- Certificate
- Technical Diploma
- Associate Degree

4. How likely are you to transfer to a four-year college or university?

- Not at all
- A little
- Somewhat
- Very
- Extremely

We would like to learn a bit more about your current college and how you have been doing so far as a student who transferred to this college. This information will help us and the colleges receiving transfer students like you to provide the kinds of support you need the most.

5. What is the name of the college or university you have transferred to?

6. When did you start attending your current college?

- January – May 2015
- June – August 2015
- September – December 2015
- January 2016 or later

7. How important were each of the following reasons in your decision to transfer to your current college?

	Not at all	A little	Somewhat	Very	Extremely
a. To attain a bachelor’s degree or higher from this college, or by transferring from this college to a four-year college	<input type="radio"/>				
b. To graduate or earn a credential faster	<input type="radio"/>				
c. Academic reasons other than noted above, for example, my academic interests changed or the previous institution did not offer the degree, major or courses I am interested in	<input type="radio"/>				
d. Financial reasons, for example, this college is less expensive to attend or I received scholarships to attend here	<input type="radio"/>				
e. To be closer to my family	<input type="radio"/>				
f. To be farther away from my family	<input type="radio"/>				
g. For better career opportunities	<input type="radio"/>				
h. For more social activities and events for students	<input type="radio"/>				
i. My family wanted me to transfer	<input type="radio"/>				
j. For a stronger sense of belonging; I feel this is where I fit in compared to my previous college	<input type="radio"/>				
k. Important people in my life, like family and friends, attend this college too	<input type="radio"/>				
l. Other reason → Please tell us: <input style="width: 200px; height: 15px;" type="text"/>	<input type="radio"/>				

8. Are you currently enrolled at this college as a full-time or part-time student?

- Full-time
- Part-time

9. At your current college, have you chosen an area of study as your major?

- Yes
 No → **Go to question 11**

10. Which one of the following areas of study have you chosen as your major? If you have chosen more than one major program of study, please only check the one closest to your primary interest.

- Biological, agricultural or environmental life sciences
- Computer or mathematical sciences
- Engineering or engineering technologies
- Physical sciences including chemistry, physics, astronomy, etc.
- Other field of study → Please tell us:

Go to question 12 →

11. Which one of the following areas of study are you planning on choosing as your major program of study? If you are interested in more than one major program of study, please only check the one closest to your primary interest.

- Biological, agricultural or environmental life sciences
- Computer or mathematical sciences
- Engineering or engineering technologies
- Physical sciences including chemistry, physics, astronomy, etc.
- Other field of study → Please tell us:

12. At your current college, how often do you...

	Never	Rarely	Sometimes	Often	Very often
a. ...participate in academic activities outside of classes related to the major field of study that you have chosen or plan to choose?	<input type="radio"/>				
b. ...interact with students who are within the major field of study that you have chosen or plan to choose?	<input type="radio"/>				
c. ...interact with instructors who teach in the major field of study that you have chosen or plan to choose?	<input type="radio"/>				

13. At your current college, how much...

	Not at all	A little	Some	Quite a bit	A great deal
a. ...coursework have you taken within the major field of study that you have chosen or plan to choose?	<input type="radio"/>				
b. ...do you know about possible future career opportunities within the major field of study that you have chosen or plan to choose?	<input type="radio"/>				

14. At your current college, how interested are you in...

	Not at all	A little	Somewhat	Very	Extremely
a. ...courses within the major field of study that you have chosen or plan to choose?	<input type="radio"/>				
b. ...participating in academic activities related to the major field of study that you have chosen or plan to choose?	<input type="radio"/>				
c. ...interacting with students who are within the major field of study that you have chosen or plan to choose?	<input type="radio"/>				
d. ...interacting with instructors who are within the major field of study that you have chosen or plan to choose?	<input type="radio"/>				
e. ...choosing a career that closely aligns with the major field of study that you have chosen or plan to choose?	<input type="radio"/>				

15. How sure are you that you will...

	Not at all	A little	Somewhat	Very	Extremely
a. ...enroll in this college again next semester?	<input type="radio"/>				
b. ...enroll in this college until you graduate?	<input type="radio"/>				
c. ...graduate with a degree from this college in the major field of study that you have chosen or plan to choose?	<input type="radio"/>				
d. ...find a job within the major field of study that you have chosen or plan to choose?	<input type="radio"/>				

16. For the next 5 questions, please reflect on your experiences within your chosen major program of study, or if you haven't declared a major yet, the courses you have been taking at your current college.

How often do courses require you to...

	Never	Rarely	Sometimes	Often	Very often
a. ...apply what you have learned to real-life situations?	<input type="radio"/>				
b. ...present what you have learned to instructor and peers?	<input type="radio"/>				
c. ...explore key concepts, data, beliefs, or values within small groups?	<input type="radio"/>				
d. ...think about instructor's question on your own first, and then discuss the question with peers before the instructor explains the answer to the class?	<input type="radio"/>				

17. How often do courses require you to...

	Never	Rarely	Sometimes	Often	Very often
a. ...identify what you already know, what you need to know, and how and where to access new information in order to solve a given problem?	<input type="radio"/>				
b. ...consider, compare, and generate multiple potential solutions to a given problem?	<input type="radio"/>				
c. ...integrate skills and knowledge learned to solve problems?	<input type="radio"/>				
d. ...work in groups to research necessary background material in order to solve complex, realistic problems?	<input type="radio"/>				

18. How often do courses require you to...

	Never	Rarely	Sometimes	Often	Very often
a. ...draw diagrams to visually show the connection between a new concept and other concepts that you already learned?	<input type="radio"/>				
b. ...gather information from a variety of sources?	<input type="radio"/>				
c. ...draw conclusions and make decisions given a detailed description of a situation?	<input type="radio"/>				
d. ...evaluate student peers' written work?	<input type="radio"/>				

19. How often do courses require you to...

	Never	Rarely	Sometimes	Often	Very often
a. ...work on real-world problems?	<input type="radio"/>				
b. ...work on your own projects or experiments?	<input type="radio"/>				
c. ...choose your own topics or projects to investigate?	<input type="radio"/>				

20. How often do courses require you to...

	Never	Rarely	Sometimes	Often	Very often
a. ...learn what scientists, technicians, engineers, mathematicians or other STEM professionals do in real life?	<input type="radio"/>				
b. ...interact with scientists, technicians, engineers, mathematicians, or other STEM professionals?	<input type="radio"/>				

21. How often do you...

	Never	Rarely	Sometimes	Often	Very often
a. ...work with an instructor or a researcher at your college on a research project?	<input type="radio"/>				
b. ...participate in a learning community, which are classes that are linked or clustered, often around an interdisciplinary theme, and enroll a common group of students?	<input type="radio"/>				
c. ...participate in a community-based project as part of your course requirement, where community organizations like schools, neighborhood organizations, and civic organizations, partner with your college to solve real-world problems?	<input type="radio"/>				

22. If you are currently enrolled in a two-year college, how often do you work with an instructor or a researcher from a four-year college or university on a research project?

- Never
- Rarely
- Sometimes
- Often
- Very often
- Not applicable, I am not enrolled in a two-year college

23. How likely are you to...

	Not at all	A little	Somewhat	Very	Extremely
a. ...do well in required <u>math</u> courses you are taking in college?	<input type="radio"/>				
b. ...do well in required <u>science</u> courses you are taking in college?	<input type="radio"/>				

24. How much financial support do you have to attend this college?

- None
- A little
- Some
- A lot
- A great deal

25. How supportive of your school work are your...

	Not at all	A little	Somewhat	Very	Extremely
a. ...family members?	<input type="radio"/>				
b. ...friends?	<input type="radio"/>				

The following questions are about your experiences as a student who has transferred to your current college.

26. How often do you ...

	Never	Rarely	Sometimes	Often	Very often
a. ...come to class on time?	<input type="radio"/>				
b. ...pay attention during class?	<input type="radio"/>				
c. ...take notes during class?	<input type="radio"/>				
d. ...complete course assignments on time?	<input type="radio"/>				
e. ...review course materials after class?	<input type="radio"/>				

27. How often do you interact with the following individuals for academic purposes?

	Never	Rarely	Sometimes	Often	Very often
a. Instructors	<input type="radio"/>				
b. Student peers	<input type="radio"/>				
c. Academic advisors	<input type="radio"/>				

28. How do the academic standards at your current college compare to those at your previous college? My current college is...

- ...a great deal more difficult
- ...somewhat more difficult
- ...about the same
- ...somewhat less difficult
- ...a great deal less difficult

29. How often do you participate in classes at your current college?

- Never
- Rarely
- Sometimes
- Often
- Very often

30. How does the coursework at your current college compare to coursework at your previous college? Coursework at my current college is...

- ...a great deal more difficult
- ...somewhat more difficult
- ...about the same
- ...somewhat less difficult
- ...a great deal less difficult

31. How would you describe your experience joining a student organization at your current college?

- Extremely difficult
- Somewhat difficult
- Neither difficult nor easy
- Somewhat easy
- Extremely easy
- Not applicable, I have not tried to join a student organization

32. How likely are you to recommend your current college to other transfer students?

- Not at all
- A little
- Somewhat
- Very
- Extremely

33. At your current college, how approachable are your...

	Not at all	A little	Somewhat	Very	Extremely
a. ...instructors?	<input type="radio"/>				
b. ...academic advisors?	<input type="radio"/>				
c. ...other staff members?	<input type="radio"/>				

34. At your current college, how willing to help are the following individuals?

	Not at all	A little	Somewhat	Very	Extremely
a. Instructors	<input type="radio"/>				
b. Academic advisors	<input type="radio"/>				
c. Other staff members	<input type="radio"/>				

35. How easy...

	Not at all	A little	Somewhat	Very	Extremely
a. ...has it been for you to make new friends at your current college?	<input type="radio"/>				
b. ...is it for you to contact your instructors?	<input type="radio"/>				
c. ...is it for you to contact your academic advisors?	<input type="radio"/>				

36. How much do you...

	Not at all	A little	Somewhat	A lot	A great deal
a. ...feel that you belong at your current college?	<input type="radio"/>				
b. ...know about services and offices on campus that help students with their academic work?	<input type="radio"/>				
c. ...know about services and offices on campus that help students with things other than academic work?	<input type="radio"/>				

37. How much do you feel that others perceive you...

	Not at all	A little	Somewhat	A lot	A great deal
a. ...differently as a transfer student?	<input type="radio"/>				
b. ...as needing more help as a transfer student compared to students who directly started here?	<input type="radio"/>				

38. Overall, as a transfer student at your current college...

	Not at all	A little	Somewhat	Very	Extremely
a. ...how welcome do you feel at this college?	<input type="radio"/>				
b. ...how supported do you feel at this college?	<input type="radio"/>				

If you transferred to a two-year college, go to question 60 →

If you transferred to a four-year college, go to question 81 →

39. Did you graduate college after completing a degree, a diploma, or a certificate?

- Yes
 No → **Go to question 41**

40. Which one of the following best describes your current activities?

- I have a job that is closely related to my degree, diploma, or certificate
- I have a job that is NOT related to my degree, diploma, or certificate
- I haven't found a job yet and am looking for a job now
- I am taking a break before moving on to work
- I am taking a break before moving on to more education
- Something else → Please tell us:

Go to question 81 →

41. What are the main reasons you are not attending college now? Please choose all that apply.

- I was only taking a course for enrichment purposes
- I lost interest in what I was studying
- I want to take a break before going back to college
- I have family obligations
- I do not feel motivated
- I cannot handle the academic requirements
- College is too expensive for me
- I got a job
- Other reason → Please tell us:

Go to question 81 →

42. What is your primary goal in attending this college? *Please choose only one.*

- Transfer to a four-year college or university
- Earning a degree, a diploma, or a certificate to gain entry or reentry into the workforce
- Taking a few courses to gain entry or reentry into the workforce
- Enhance performance in current employment position
- Taking courses for self-improvement—not seeking a credential or for employment-related purposes

43. What is the highest credential you plan to obtain from [INSTITUTION]?

- None
- Certificate
- Technical Diploma [ONLY FOR MATC AND MC]
- Associate Degree

44. How likely are you to transfer to a four-year college or university?

- Not at all
- A little
- Somewhat
- Very
- Extremely

45. Are you currently enrolled at this college as a full-time or part-time student?

- Full-time
- Part-time

46. In Fall 2014, participants in this study either had chosen a program of study or were taking one or more courses in one of the following four major areas of study:

- 1) Biological, agricultural, or environmental life sciences
- 2) Computer or mathematical sciences
- 3) Engineering or engineering technologies
- 4) Physical sciences including chemistry, physics, astronomy, etc.

Are you currently in a program of study in one of the above mentioned four areas?

Yes

No → **Go to question 48**

No, but I have declared a program of study in another area.

Please tell us →

→

Go to question 49

47. Which one of the following four areas of study represents your current program of study? If you are currently in more than one program of study, please only check the one closest to your primary interest.

- Biological, agricultural, or environmental life sciences
- Computer or mathematical sciences
- Engineering or engineering technologies
- Physical sciences including chemistry, physics, astronomy, etc.

Go to question 49 →

48. If you have not chosen a program yet, in which one of the following areas are you taking one or more classes? If the classes you are taking this term are in more than one area, please only check the one closest to your primary interest.

- Biological, agricultural, or environmental life sciences
- Computer or mathematical sciences
- Engineering or engineering technologies
- Physical sciences including chemistry, physics, astronomy, etc.
- I have been taking courses primarily in areas not listed above. Please tell us the primary area your courses are in →

49. For the next 5 questions, please reflect on your experiences within your chosen program, or the courses you are taking in one of these five areas of study that aligns with your primary interest:

- 1) Biological, agricultural, or environmental life sciences
- 2) Computer or mathematical sciences
- 3) Engineering or engineering technologies
- 4) Physical sciences including chemistry, physics, astronomy, etc.
- 5) Primary area of study indicated previously

How **often** do courses require you to...

	Never	Rarely	Sometimes	Often	Very often
a. ...apply what you have learned to real-life situations?	<input type="radio"/>				
b. ...present what you have learned to instructor and peers?	<input type="radio"/>				
c. ...explore key concepts, data, beliefs, or values within small groups?	<input type="radio"/>				
d. ...think about instructor's question on your own first, and then discuss the question with peers before the instructor explains the answer to the class?	<input type="radio"/>				

50. How often do courses require you to...

	Never	Rarely	Sometimes	Often	Very often
a. ...identify what you already know, what you need to know, and how and where to access new information in order to solve a given problem?	<input type="radio"/>				
b. ...consider, compare, and generate multiple potential solutions to a given problem?	<input type="radio"/>				
c. ...integrate skills and knowledge learned to solve problems?	<input type="radio"/>				
d. ...work in groups to research necessary background material in order to solve complex, realistic problems?	<input type="radio"/>				

51. How often do courses require you to...

	Never	Rarely	Sometimes	Often	Very often
a. ...draw diagrams to visually show the connection between a new concept and other concepts that you already learned?	<input type="radio"/>				
b. ...gather information from a variety of sources?	<input type="radio"/>				
c. ...draw conclusions and make decisions given a detailed description of a situation?	<input type="radio"/>				
d. ...evaluate student peers' written work?	<input type="radio"/>				

52. How often do courses require you to...

	Never	Rarely	Sometimes	Often	Very often
a. ...work on real-world problems?	<input type="radio"/>				
b. ...work on your own projects or experiments?	<input type="radio"/>				
c. ...choose your own topics or projects to investigate?	<input type="radio"/>				

53. How often do courses require you to...

	Never	Rarely	Sometimes	Often	Very often
a. ...learn what scientists, technicians, engineers, mathematicians or other STEM professionals do in real life?	<input type="radio"/>				
b. ...interact with scientists, technicians, engineers, mathematicians, or other STEM professionals?	<input type="radio"/>				

54. How often do you ...

	Never	Rarely	Sometimes	Often	Very often
a. ...work with an instructor or a researcher at your college on a research project?	<input type="radio"/>				
b. ...work with an instructor or a researcher from a four-year college or university on a research project?	<input type="radio"/>				
c. ...participate in a learning community, which are classes that are linked or clustered, often around an interdisciplinary theme, and enroll a common group of students?	<input type="radio"/>				
d. ...participate in a community-based project as part of your course requirement, where community organizations like schools, neighborhood organizations, and civic organizations, partner with your college to solve real-world problems?	<input type="radio"/>				

55. How often do you ...

	Never	Rarely	Sometimes	Often	Very often
a. ...come to class on time?	<input type="radio"/>				
b. ...pay attention during class?	<input type="radio"/>				
c. ...take notes during class?	<input type="radio"/>				
d. ...complete course assignments on time?	<input type="radio"/>				
e. ...review course materials after class?	<input type="radio"/>				

56. How often do you interact with the following individuals for academic purposes?

	Never	Rarely	Sometimes	Often	Very often
a. Instructors	<input type="radio"/>				
b. Student peers	<input type="radio"/>				
c. Academic advisors	<input type="radio"/>				

57. How likely are you to...

	Not at all	A little	Somewhat	Very	Extremely
a. ...do well in required <u>math</u> courses you are taking in college?	<input type="radio"/>				
b. ...do well in required <u>science</u> courses you are taking in college?	<input type="radio"/>				

58. How much financial support do you have to attend this college?

- None
- A little
- Some
- A lot
- A great deal

59. How supportive of your school work are your...

	Not at all	A little	Somewhat	Very	Extremely
a. ...family members?	<input type="radio"/>				
b. ...friends?	<input type="radio"/>				

60. The following questions are about your knowledge and opinions regarding transfer to a four-year college. At this point in time, transfer may or may not be part of your plan. However, your thoughts on these questions are of great value to this study, as they will help your college understand your educational experiences and plans, and use this knowledge to better serve you and other students.

The next questions are about the process of transferring to a four-year college.

	None	A little	Some	A lot	A great deal
a. How much <u>information</u> do you have about how to transfer to a four-year college or university?	<input type="radio"/>				
b. How much <u>financial support</u> do you have to transfer to a four-year college or university?	<input type="radio"/>				
c. How much <u>support do you have from your family</u> for transfer to a four-year college or university?	<input type="radio"/>				
d. How much <u>support do you have from friends and peers</u> for transfer to a four-year college or university?	<input type="radio"/>				

61. How confident are you about your ability to handle the process and requirements for transferring to a four-year college or university?

- Not at all
- A little
- Somewhat
- Very
- Extremely

62. How likely are you to transfer to a four-year college or university to study in a program within science, technology, engineering, and mathematics (STEM) fields of study?

- Not at all
- A little
- Somewhat
- Very
- Extremely

63. Have you...

	Yes	No
a. ...ever spoken with an advisor at your college about transfer?	<input type="radio"/>	<input type="radio"/>
b. ...ever spoken with a university advisor about transfer?	<input type="radio"/>	<input type="radio"/>
c. ...been looking at requirements for transfer on your own?	<input type="radio"/>	<input type="radio"/>

64. How familiar are you with the following services for students interested in transfer to a four-year college or university to study in a STEM program?

	Not at all	A little	Somewhat	Very	Extremely
a. Advising provided by <u>academic advisors</u> on up-to-date transfer information and options based on your needs and interests	<input type="radio"/>				
b. Advising provided by <u>faculty members</u> to assist you with STEM transfer options and pathways	<input type="radio"/>				
c. Published information or guidelines in print or online about four-year transfer options unique to your program of study	<input type="radio"/>				
d. Published information or guidelines in print or online about course options or alternatives that maximize transferable credits in your program of study	<input type="radio"/>				

65. How important to you are the following services for students interested in transfer to a four-year college or university to study in a STEM program?

	Not at all	A little	Somewhat	Very	Extremely
a. Advising provided by <u>academic advisors</u> on up-to-date transfer information and options based on your needs and interests	<input type="radio"/>				
b. Advising provided by <u>faculty members</u> to assist you with STEM transfer options and pathways	<input type="radio"/>				
c. Published information or guidelines in print or online about four-year transfer options unique to your program of study	<input type="radio"/>				
d. Published information or guidelines in print or online about course options or alternatives that maximize transferable credits in your program of study	<input type="radio"/>				

66. How often do you use each of the following services provided by your college or campus?

	Never	Rarely	Sometimes	Often	Very often
a. Advising for future transfer to a four-year college, either walk-in or online	<input type="radio"/>				
b. Published transfer information or guidelines	<input type="radio"/>				
c. Transfer credit assistance, which helps you in determining how your course credits transfer to other colleges and universities	<input type="radio"/>				

67. How important to you are each of the following services provided by your college or campus?

	Not at all	A little	Somewhat	Very	Extremely
a. Advising for future transfer to a four-year college, either walk-in or online	<input type="radio"/>				
b. Published transfer information or guidelines	<input type="radio"/>				
c. Transfer credit assistance, which helps you in determining how your course credits transfer to other colleges and universities	<input type="radio"/>				

68. How satisfied are you with the following services provided by your college or campus?

	Not at all	A little	Somewhat	Very	Extremely	Not applicable, I have never used this service
a. Advising for future transfer to a four-year college, either walk-in or online	<input type="radio"/>					
b. Published transfer information or guidelines	<input type="radio"/>					
c. Transfer credit assistance, which helps you in determining how your course credits transfer to other colleges and universities	<input type="radio"/>					

69. How often do you contact each of the following individuals to discuss matters related to transfer to a four-year college or university?

	Never	Rarely	Sometimes	Often	Very often
a. Instructors	<input type="radio"/>				
b. Student peers	<input type="radio"/>				
c. Academic advisors or counselors	<input type="radio"/>				
d. Family members or friends	<input type="radio"/>				

70. How well do you understand which courses at your college are transferrable to a four-year college or university?

- Not at all
- A little
- Somewhat
- Very
- Extremely

71. How important is the following information in deciding whether you transfer to a four-year college or university?

	Not at all	A little	Somewhat	Very	Extremely
a. Job prospects after getting a bachelor's degree	<input type="radio"/>				
b. Job prospects after getting a two-year degree, diploma, or credential	<input type="radio"/>				
c. Academic preparation required for transfer	<input type="radio"/>				
d. The quality of instruction at a four-year college	<input type="radio"/>				
e. The amount of money I need to pay to attend a four-year college	<input type="radio"/>				
f. Information about the programs and majors at other colleges	<input type="radio"/>				
g. Programs and courses offered at a four-year college	<input type="radio"/>				
h. Social activities at a four-year college	<input type="radio"/>				
i. The reputation of a four-year college	<input type="radio"/>				
j. The location of a four-year college	<input type="radio"/>				
k. Other important information not listed above. → Please tell us:	<input type="radio"/>				
<input style="width: 300px; height: 20px;" type="text"/>					

72. How much of a barrier does each of the following represent in deciding whether you transfer to a four-year college or university?

	Not at all	A little	Some	A lot	A great deal
a. Financial concerns	<input type="radio"/>				
b. Child care obligations	<input type="radio"/>				
c. Poor grades at the current college	<input type="radio"/>				
d. Little support from family	<input type="radio"/>				
e. Little support from friends	<input type="radio"/>				
f. Little support from instructors	<input type="radio"/>				
g. Little support from academic advisors	<input type="radio"/>				
h. Other barriers not listed above. → Please tell us:	<input type="radio"/>				
<input style="width: 300px; height: 20px;" type="text"/>					

73. At this point, do you intend to transfer from your current college to a four-year college or university?

Yes

No → Go to question 81

74. Which major program at a four-year college or university do you intend to study?

Biological, agricultural, or environmental life sciences

Computer or mathematical sciences

Engineering or engineering technologies

Physical sciences including chemistry, physics, astronomy, etc.

Other major program of study → Please tell us:

75. Have you met with a transfer advisor from a four-year college or university?

Yes

No, but I am planning to

No, and I do not plan to

76. Have you visited the campus of a four-year college or university you wish to transfer to?

Yes

No, but I am planning to

No, and I do not plan to

77. Have you met with faculty at a four-year college or university you wish to transfer to?

Yes

No, but I am planning to

No, and I do not plan to

78. Have you taken any courses at a four-year college or university you wish to transfer to?

Yes

No, but I am planning to

No, and I do not plan to

79. Have you talked about transfer with any students enrolled at your college who also wish to transfer to a four-year college or university?

Yes

No, but I am planning to

No, and I do not plan to

80. Have you talked to any students enrolled at the four-year college or university you wish to transfer to about their experiences?

- Yes
- No, but I am planning to
- No, and I do not plan to

Now we would like to know a bit more about you as an individual. Please rest assured that the information you share with us will only be used to help the college(s) you have attended better serve you and others like you. Any personal information you share with us will be kept completely confidential.

81. What is the highest credential you plan to obtain from any postsecondary institution?

- None
- Certificate
- Technical Diploma
- Associate Degree
- Bachelor's
- Master's
- Doctoral
- Professional degree, for example: Doctor of Medicine, Juris Doctor, Doctor of Pharmacy, etc.

82. Thinking about your past or current experiences as a math learner, how confident are you that you...

	Not at all	A little	Somewhat	Very	Extremely
a. ...have the ability to master the material taught in <u>math</u> ?	<input type="radio"/>				
b. ...can do well on <u>math</u> exams?	<input type="radio"/>				
c. ...can complete <u>math</u> assignments successfully?	<input type="radio"/>				
d. ...can receive a good grade in college <u>math</u> courses?	<input type="radio"/>				
e. ...can perform well in course activities in <u>math</u> classes?	<input type="radio"/>				

83. Thinking about your past or current experiences as a science learner, how confident are you that you...

	Not at all	A little	Somewhat	Very	Extremely
a. ...have the ability to master the material taught in <u>science</u> ?	<input type="radio"/>				
b. ...can do well on <u>science</u> exams?	<input type="radio"/>				
c. ...can complete <u>science</u> assignments successfully?	<input type="radio"/>				
d. ...can receive a good grade in college <u>science</u> courses?	<input type="radio"/>				
e. ...can perform well in course activities in <u>science</u> classes?	<input type="radio"/>				

84. Are you considered financially dependent on your parents or legal guardians?

- Yes
- No

85. Considering income from all sources, what was your family's total income in 2015? Family income refers to your parents' income if you are still considered their dependent. Otherwise, this refers to your own income and that of your spouse, if applicable.

- Less than \$30,000
- \$30,000 to \$59,999
- \$60,000 to \$89,999
- \$90,000 to \$119,999
- \$120,000 to \$149,999
- \$150,000 and above

86. What is your current employment status?

- Employed full-time, including multiple part-time jobs that add up to full-time
- Employed part-time
- Not employed → **Go to question 88**

87. On average, how many hours a week are you working for pay?

Hours

88. What is your current marital status?

- Single and never married
- Married
- Separated
- Divorced
- Widowed

89. Do you have children who live with you?

- Yes
- No → **Go to question 92**

90. Are you a single parent with at least one dependent child?

- Yes
- No

91. On average, how many hours a week do you spend taking care of children?

Hours

92. Do you have a documented or diagnosed disability?

- Yes
- No → **Go to question 94**
- Prefer not to answer → **Go to question 94**

93. Please indicate which of the following applies to you (choose all that apply):

- Mobility impairment
- Chronic illness or medical disability
- Visual impairment or blindness
- Deaf/Hard of hearing
- Speech or language disability
- Autism spectrum disorder
- Learning disability
- Attention deficit disorder (ADD/ADHD)
- Psychological disability
- Other disability → Please tell us:

94. Please provide what you believe is the best contact information for us to reach you in the future, what you might consider your permanent contact information:

Address

City

State

Zip

Telephone () -

Email

95. Please list any additional comments you have regarding the survey.

Thank you for participating in this survey!

**Please place your completed questionnaire
in the postage paid envelope provided and return it today.**

Bibliography

(This list contains literature pertaining to the project that informed survey instrument development.)

- Anderson, E., & Kim, D. (2006). *Increasing the success of minority students in science and technology*. Washington, DC: American Council on Education. Retrieved from <http://www.acenet.edu/news-room/Documents/Increasing-the-Success-of-MinorityStudents-in-Science-and-Technology-2006.pdf>
- Bean, J. P., & Metzner, B. S. (1985). A conceptual model of nontraditional undergraduate student attrition. *Review of Educational Research*, 55(4), 485-540. doi:10.3102/00346543055004485
- Braxton, J. M., Milem, J. F., & Sullivan, A. S. (2000). The influence of active learning on the college student departure process: Toward a revision of Tinto's theory. *The Journal of Higher Education*, 71(5), 569-590. doi:10.2307/2649260
- Facione, P. A., Sánchez, C. A., Facione, N. C., & Gainen, J. (1995). The disposition toward critical thinking. *The Journal of General Education*, 44(1), 1-25.
- Fouad, N. A., Smith, P. L., & Zao, K. E. (2002). Across academic domains: Extensions of the social-cognitive career model. *Journal of Counseling Psychology*, 49(2), 164-171. doi:10.1037//0022-0167.49.2.164
- Graham, M. J., Frederick, J., Byars-Winston, A., Hunter, A., & Handelsman, J. (2013). Increasing persistence of college students in STEM. *Science*, 341(6153), 1455-1456. doi:10.1126/science.1240487
- Haak, D. C., HilleRisLambers, J., Pitre, E., & Freeman, S. (2011). Increased structure and active learning reduce the achievement gap in introductory biology. *Science*, 332(6034), 1213-1216.
- Laanan, F. S. (2004). Studying transfer students: Part I: Instrument design and implications. *Community College Journal of Research and Practice*, 28(4), 331-351. doi:10.1080/10668920490424050
- Laanan, F. S. (2007). Studying transfer students: Part II: Dimensions of transfer students' adjustment. *Community College Journal of Research and Practice*, 31(1), 37-59. doi:10.1080/10668920600859947
- Laanan, F. S., Starobin, S. S., & Eggleston, L. E. (2010). Adjustment of community college students at a four-year university: Role and relevance of transfer student capital for student retention. *Journal of College Student Retention: Research, Theory and Practice*, 12(2) 175-209. doi:10.2190/CS.12.2.d
- Lang, J. D., Cruse, S., McVey, F. D., & McMasters, J. (1999). Industry expectations of new engineers: A survey to assist curriculum designers. *Journal of Engineering Education*, 88(1), 43-51. doi:10.1002/j.2168-9830.1999.tb00410.x
- Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice and performance. *Journal of Vocational Behavior*, 45(1), 79-122. doi:10.1006/jvbe.1994.1027
- Lent, R. W., Brown, S. D., & Hackett, G. (2000). Contextual supports and barriers to career choice: A social cognitive analysis. *Journal of Counseling Psychology*, 47(1), 36-49. doi:10.1037/0022-0167.47.1.36
- Lopatto, D. (2007). Undergraduate research experiences support science career decisions and active learning. *CBE Life Sciences Education*, 6(4), 297-306. doi:10.1187/cbe.07-06-003916
- Lopatto, D., Alvarez, C., Barnard, D., Chandrasekaran, C., Chung, H.-M., Du, C., ... Elgin, S. C. R. (2008). Genomics education partnership. *Science*, 322(5902), 684-685.
- National Research Council. (2012). *Community colleges in the evolving STEM education landscape: Summary of a summit*. Washington, DC: The National Academies Press.
- National Science Board. (2010). *Science and engineering indicators 2010*. Arlington, VA: National Science Foundation. Retrieved from <http://www.nsf.gov/statistics/seind10/pdf/seind10.pdf>
- Nora, A., & Wedham, E. (1991, April). *Off-campus experiences: The pull factors affecting freshman-year attrition on a commuter campus*. Paper presented at the meeting of the American Educational Research Association, Chicago, IL.
- Pfund, C., Miller, S., Brenner, K., Bruns, P., Chang, A., Ebert-May, D., ... Handelsman, J. (2009). Summer institute to improve university science teaching. *Science*, 324(5926), 470-471.
- President's Council of Advisors on Science and Technology. (2012). *Report to the President: Engage to excel: Producing one million additional college graduates with degrees in science, technology, engineering, and*

mathematics. Retrieved from http://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast-engage-to-excel-final_2-25-12.pdf

- Smith, P. L., & Fouad, N. A. (1999). Subject-matter specificity of self-efficacy, outcome expectancies, interests, and goals: Implications for the social-cognitive model. *Journal of Counseling Psychology, 46*(4), 461-471. doi:10.1037/0022-0167.46.4.461
- Velez, W., & Javalgi, R. G. (1987). Two-year to four-year college: The likelihood of transfer. *American Journal of Education, 96*(1), 81-94. doi:10.1086/443882
- Wang, X. (2009). Baccalaureate attainment and college persistence of community college transfer students at four-year institutions. *Research in Higher Education, 50*(6), 570-588. doi:10.1007/s11162-009-9133-z
- Wang, X. (2012a). Factors contributing to the upward transfer of baccalaureate aspirants beginning at community colleges. *Journal of Higher Education, 83*(6), 851-875. doi:10.1353/jhe.2012.0043
- Wang, X. (2012b). Stability of educational expectations among baccalaureate aspirants beginning at community colleges. *Community College Review, 40*(4), 300-319. doi:10.1177/0091552112454914
- Wang, X. (2013). Why students choose STEM majors: Motivation, high school learning, and postsecondary context of support. *American Educational Research Journal, 50*(5), 1081-1121. doi:10.3102/0002831213488622
- Wang, X. (2015). Pathway to a baccalaureate in STEM fields: Are community colleges a viable route and does early STEM momentum matter? *Educational Evaluation and Policy Analysis, 37*(3), 376-393. doi:10.3102/0162373714552561.