

APPENDIX A: Undergraduate Engineering Student Success Survey

*Note: Questions or sections indicated with ** are relevant for this particular paper*

ALL STUDENTS

1. **What is your PID?
2. **Are you currently enrolled in the Jacobs School of Engineering?
 - a. Yes
 - b. No--I am no longer studying engineering
 - c. No--I recently graduated with a degree in engineering
3. **When did you first enroll at UC San Diego?
 - a. Summer/Fall 2020
 - b. Summer Fall 2019
 - c. Summer/Fall 2018
 - d. Summer/Fall 2017
 - e. Summer/Fall 2016
 - f. Earlier than 2016
4. **As of today, I am a _____ at UC San Diego: (Select one)
 - a. First-year student
 - b. Second-year student
 - c. Third-year student
 - d. Fourth-year student
 - e. Fifth-year student and above
 - f. Graduated
 - g. Other (please specify)
5. **What was your intended or actual engineering major? (Select one)
 - a. Bioengineering**
 - i. Bioengineering
 - ii. Bioengineering: Biotechnology
 - iii. Bioengineering: Bioinformatics
 - iv. Bioengineering: BioSystems
 - b. CSE**
 - i. Computer Science
 - ii. Computer Engineering
 - iii. Computer Science: Bioinformatics
 - c. ECE**
 - i. Computer Engineering
 - ii. Electrical Engineering
 - iii. Engineering Physics
 - iv. Electrical Engineering & Society
 - d. MAE**

- i. Aerospace Engineering
 - ii. Environmental Engineering
 - iii. Mechanical Engineering
- e. **NanoEngineering**
 - i. Chemical Engineering
 - ii. NanoEngineering
- 6. **Structural Engineering**
- 7. What is your college?
 - a. Marshall
 - b. Muir
 - c. Revelle
 - d. Roosevelt
 - e. Seventh
 - f. Sixth
 - g. Warren
- 8. **Where were you immediately before your first semester/term at this institution? (Select one)
 - a. High school
 - b. 4-year college
 - c. Working a full-time job
 - d. 2-year college
 - e. Military
 - f. Vocational / technical school
 - g. Other: _____
- 9. What was your cumulative college GPA at the end of the most recent academic quarter/term?
- 10. Why did you initially decide to major in engineering? (Select all that apply)
 - a. Attracted by the challenge of a difficult curriculum
 - b. Good at math or science
 - c. High school adviser or teacher recommended it
 - d. Like to solve problems
 - e. Like the design work that engineers do
 - f. Participated in engineering camp or workshop that influenced me
 - g. Parents, other relatives or friend is an engineering
 - h. Parents, siblings or other relatives recommended it
 - i. Received or anticipated possibility of good college scholarship
 - j. Wanted to be able to get a well-paying job after I graduate
 - k. Wanted to use engineering solutions to address social problems
 - l. Not Sure
 - m. Other: _____

11. Using the table below, check **Yes** or **No** to indicate if you completed any of these **honors** or **advanced courses** during high school.

	Honors/Advanced?	
	Yes	No
Algebra		
Biology		
Computer science		
Pre-calculus		
Calculus		
Chemistry		
English		
Geometry		
History		
Physics		
Trigonometry		

12. Do you feel your high school coursework adequately prepared you to be successful in an engineering curriculum?

- a. Yes
- b. No

Please explain your response:

13. When you began your engineering degree, how confident were you that you would complete it? (Select one)

- a. Not very confident; I was already unsure of my plan to study engineering
- b. I felt there was about a 50% chance that I would complete a degree in engineering
- c. I was fairly confident that I would complete a degree in engineering
- d. I was very confident that I would complete a degree in engineering
- e. Other: _____

14. My plans for the future are to: (Select all that apply):

- a. Work in industry
- b. Work in a government lab or agency
- c. Go on to graduate school
- d. Go on to professional school (e.g. medicine, law)
- e. Teach at the college or university level
- f. Teach in K-12 schools
- g. Participate in a business start up or start my own business
- h. Enter (or re-enter) the military
- i. Undecided
- j. Other: Please specify _____

15. **The following is a list of engineering activities (co-curricular and academic). For each activity indicate your level of involvement during the most recent academic year you were enrolled in engineering (e.g. September to June).

	Not Involved	1-2 times/year	3-5 times/year	More than 5 times/year
An engineering society (e.g. American Society of Mechanical Engineers)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
An engineering fraternity or sorority	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A professional or student group for women or minority engineers (e.g. SWE, NSBE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IDEA Engineering Student Center sponsored activities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Activities (social or academic) sponsored by your department or major	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Design competition teams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other engineering student organization	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Undergraduate research experiences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Co-op or Professional Internship position	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

16. The following is a list of academic and/or academic preparation activities. Select all the activities in which you engaged during the last academic year (e.g. September to June). *If you have graduated, answer about your final year.*

- a. Attended engineering orientation prior to beginning classes
- b. Attended summer program designed to prepare me to begin the engineering curriculum
- c. Attended review sessions before exams
- d. Called or emailed parents or other close friends about difficulties I was experiencing in classes or school
- e. Got advice from a mentor in a formal mentoring program
- f. Lived in honors or other non-engineering special interest dorm
- g. Participated in engineering-focused living arrangement (e.g. dorm, engineering fraternity)
- h. Participated in formal or informal study groups
- i. Received tutoring for courses where I was experiencing difficulty
- j. Scheduled an appointment with a professor and / or graduate assistant outside of his or her office hours

- k. Sought help from other engineering students when I experienced difficulties in classes
 - l. Visited a professor and / or graduate assistant in her or his office hours
 - m. Visited or emailed an adviser or advising center
 - n. Visited the Career Center or Co-op Office to seek assistance with job search (e.g. permanent, internship or co-op)
17. Do (did) you participate in any college / university athletic activities (intramural or official)? (Select one)
- a. Yes
 - b. No
18. Do (did) you work during the academic year? (Select one)
- a. Yes
 - b. No
19. If you answered “yes” above, approximately how many hours per week are (were) you employed as a student?

	Less than 5	6 - 10	11 - 15	16 - 20	More than 20
On-campus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Off-campus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

20. When you have an academic problem in engineering, what do/did you do? (Rank your top 3 choices)
- a. ____ Do something social or something that relaxes me (e.g. exercise, read a novel)
 - b. ____ Talk to a faculty member
 - c. ____ Talk to a mentor
 - d. ____ Form or join a student study group
 - e. ____ Talk to engineering advisor and/or advising staff
 - f. ____ I never feel this way
 - g. ____ Nothing
 - h. ____ Talk to other students and/or friends
 - i. ____ Seek academic help at a tutoring center
 - j. ____ Talk to my parents or siblings
 - k. ____ Spend more time studying
 - l. ____ Visit the IDEA Engineering Student Center
 - m. ____ Other _____
21. How did you first meet the people you currently (or most recently) study with for your engineering-related courses? (Select all that apply)
- a. Summer transition program (e.g., SEI, Summer Bridge, etc.)

- b. During my first year through a scholars or cohort program that I am part of (e.g., Student Success Coaching, IDEA Scholars, etc.)
- c. Courses
- d. Engineering Student Orgs
- e. My College
- f. Residence Halls
- g. Other

Please explain.

22. How supportive are/were your parents/guardians in your decision to study engineering?
(Select one)

- a. Very supportive of my decision
- b. Somewhat supportive of my decision
- c. Did not have a preference in my decision
- d. Somewhat against my decision
- e. Firmly against my decision
- f. Did not discuss decision with them

23. How much do you agree or disagree with the following statements? I feel like I belong to... (For graduates: At the time of graduation) (1=disagree strongly, 5=agree strongly)

- a. The UC San Diego campus community
- b. The engineering or computer science community at the Jacobs School of Engineering
- c. A community of my peers at UC San Diego

24. How much do you agree or disagree with the following statements? (For graduates: At the time of graduation) (1=disagree strongly, 5=agree strongly)

- a. I feel a sense of belonging in my department
- b. I feel like I belong in the engineering field

CURRENT ENGINEERS ONLY (INCLUDING SEI PARTICIPANTS & COMPARISON GROUP)

25. At the present time, how confident are you that you will complete an engineering degree at this institution? (Select one)

- a. Not very confident; it is highly likely I will not complete an engineering degree at this institution
- b. There is about a 50% chance that I will complete an engineering degree at this institution
- c. I am fairly confident (greater than 50%) that I will complete an engineering degree at this institution
- d. I am very confident that I will complete an engineering degree at this institution
- e. Other: _____

26. In your future plans, do you plan to remain in the engineering field?

- a. Yes
- b. No
- c. Not sure (please explain)

27. The following are factors known to influence students' persistence in engineering education. For each factor, choose a column ranging from No Influence to Significant Influence to indicate the degree to which that factor influences or influenced your persistence in engineering. How much is/was each of these a factor in your persistence?

How much is each of these a factor in your persistence?	No Influence	Small Influence	Moderate Influence	Significant Influence
a. Sufficient opportunities for financial aid or scholarships	1	2	3	4
b. Engineering faculty/departmental personnel show an interest in me	1	2	3	4
c. Reasonable workload of the engineering classes	1	2	3	4
d. Friendly climate in engineering classes	1	2	3	4
e. Satisfactory performance on my grades in engineering	1	2	3	4
f. Faculty help me understand what practicing engineers do	1	2	3	4
g. Good teaching by engineering faculty, instructors, or graduate assistants	1	2	3	4
h. Effective academic advising by engineering faculty or advisors	1	2	3	4
i. Ability to find satisfactory Co-ops and/or internships	1	2	3	4
j. My personal abilities/talents "fit" the requirements in engineering	1	2	3	4
k. Confident of succeeding in engineering future classes	1	2	3	4
l. Positive interactions with other engineering students	1	2	3	4
m. Positive experiences in design teams or other collaborative learning experiences in engineering	1	2	3	4

28. What is the **one biggest factor** that helps/helped you persist in your study of engineering?

29. What could the Jacobs School or your engineering department do to make the study of engineering more enjoyable or satisfying?

FORMER ENGINEERS ONLY

30. When did you transfer out of the school of engineering (month / year)? ____ / ____

31. At the present time, how confident are you that you will complete a degree (in any major) at this institution? (Select one)

- a. Not very confident; it is highly likely I will not complete any college degree at this institution
- b. There is about a 50% chance that I will complete a degree at this institution
- c. I am fairly confident that I will complete a degree at this institution
- d. I am very confident that I will complete a degree at this institution
- e. Other: _____

32. What discipline did you pursue after engineering? (Select one)

- a. Agriculture
- b. Pre Med/Health Professions
- c. Art / Fine Arts
- d. Science
- e. Business / Management
- f. Pre Law Studies
- g. Computer/Information Science
- h. No other major; not returning to school
- i. Education
- j. Transferring to another institution
- k. Engineering Technology
- l. Undecided
- m. Liberal Arts / Humanities
- n. Other _____

33. The following is a list of factors that may have influenced your decision to transfer out of engineering. For each factor choose a number between **0** and **4** to indicate the degree to which that factor influenced your decision to leave engineering where **0 = Not a Factor** and **4 = A Significant Factor**.

	Not a Factor	A Factor But Not Significant			A Significan t Factor
	0	1	2	3	4
a. Lack of opportunities for financial aid or scholarships	0	1	2	3	4
b. Engineering faculty/departmental personnel showed little interest in me	0	1	2	3	4

c. Unreasonable workload of the engineering classes	0	1	2	3	4
d. Unfriendly climate in engineering classes	0	1	2	3	4
e. Unsatisfactory performance on my grades in engineering	0	1	2	3	4
f. Faculty did not help me understand what practicing engineers do	0	1	2	3	4
g. Poor teaching by engineering faculty, instructors or graduate assistants	0	1	2	3	4
h. Poor academic advising by engineering faculty or advisors	0	1	2	3	4
i. Ability to find satisfactory CO-Ops and / or internships	0	1	2	3	4
j. My personal abilities/talents are not a good “fit” with requirements in engineering	0	1	2	3	4
k. Not confident about succeeding in future engineering classes	0	1	2	3	4
l. Poor interactions with other engineering students	0	1	2	3	4
m. Negative experiences in design teams or other collaborative learning experiences in engineering	0	1	2	3	4
n. Lack of opportunities for financial aid or scholarships	0	1	2	3	4
o. Engineering faculty/departmental personnel showed little interest in me	0	1	2	3	4
p. Unreasonable workload of the engineering classes	0	1	2	3	4
q. Unfriendly climate in engineering classes	0	1	2	3	4
r. Unsatisfactory performance on my grades in engineering	0	1	2	3	4
s. Faculty did not help me understand what practicing engineers do	0	1	2	3	4

34. What was the **one biggest factor** that influenced you in deciding to change majors?

35. With whom did you talk to about your decision to leave engineering (Select all that apply)?

- a. Engineering advisor and / or advising staff
- b. Parents
- c. Advisor and / or advising staff in new major
- d. Advisor and / or advising staff in your college
- e. A faculty member
- f. Other students and/or friends

- g. Relatives or family friends
 - h. Advisor or staff in the IDEA Engineering Student Center
 - i. Mentor
 - j. No one
 - k. Other _____
36. How supportive are your parents/guardians of your decision to change majors? (Select one)
- a. Very supportive of my decision
 - b. Somewhat supportive of my decision
 - c. Did not have a preference in my decision
 - d. Somewhat against my decision
 - e. Firmly against my decision
 - f. Did not discuss decision with them
37. What else would you like to tell us about your experience in engineering?

GRADUATES ONLY

38. What are you doing now after graduation?
- a. Employed
 - b. Attending graduate/professional school
 - c. Seeking employment
 - d. Seeking acceptance to graduate school
 - e. Military service
 - f. Travel
 - g. Other (please specify)
39. If employed, is your employment in the engineering field?
- a. Yes / No
 - b. Specify company/role
40. If attending graduate school, are your graduate studies in engineering?
- a. Yes / No
 - b. Specify school and discipline

****SEI PARTICIPANTS ONLY**

41. Did you participate in the Summer Engineering Institute?
 - a. Yes / No
42. How much do you agree or disagree with the following statements? (1=disagree strongly, 5=agree strongly)
 - a. SEI supported my successful transition to UC San Diego
 - b. SEI helped me navigate campus resources during my first year
 - c. SEI supported my academic success during my first year
 - d. SEI established a strong network of people that continues to support me at UC San Diego
 - e. SEI supported my success beyond my first year
43. How did participating in SEI support your success as an engineering student at UC San Diego?
44. Looking back, is there anything you would change about the SEI program so that it would have better supported your transition to UC San Diego?
45. Is there anything else you would like to share with us about your experience in SEI or your transition to UC San Diego?

****IDEA/ACES PARTICIPANTS ONLY**

46. Are you/were you an IDEA Scholar or ACES Scholar?
 - a. Yes
 - b. No
47. How much do you agree or disagree with the following statements? (1=disagree strongly, 5=agree strongly)
 - a. IDEA/ACES Scholars supported my successful transition to UC San Diego
 - b. IDEA/ACES Scholars supported my success beyond my first year
48. Look at this list of aspects of the IDEA/ACES Scholars program. Thinking about your whole experience as an engineering student, choose the three aspects of the program that supported your success the most.
 - a. SEI
 - b. Weekly Scholar discussions (Fall)
 - c. Cohort of peer Scholars
 - d. IDEA Center Advising/Staff
 - e. Peer Mentoring (ACES) / Big-Little (IDEA)
 - f. Faculty Mentoring (ACES only)
 - g. Professional development workshops
 - h. Something else not listed (please specify)

Please explain your answer.

49. Again, thinking about your whole experience as an engineering student, choose the three aspects of the IDEA/ACES Scholars program that had the least impact on your success.

- a. SEI
- b. Weekly Scholar discussions (Fall)
- c. Cohort of peer Scholars
- d. IDEA Center Advising/Staff
- e. Peer Mentoring (ACES) / Big-Little (IDEA)
- f. Faculty Mentoring (ACES only)
- g. Professional development workshops
- h. Something else not listed (please specify)

Please explain your answer.

50. How many of the weekly discussions did you participate in during your first Fall quarter of the IDEA/ACES Scholar program?

- a. All
- b. Almost all
- c. About half
- d. A few
- e. One or two
- f. None

51. How often do/did you participate in 1x1 advising with the IDEA/ACES Scholars program coordinator?

- a. Never
- b. A few times
- c. Several times, but not every quarter
- d. Once every quarter
- e. Multiple times every quarter

52. How does/did the 1x1 advising support you? What could have been improved?

53. How does/did the faculty advising support you? What could have been improved? (ACES Only)

54. Is there anything else you would like us to know about your experience with the IDEA or ACES Scholars Program?

****ALL STUDENTS - ABOUT YOU**

55. Are you a first generation college student?

UC San Diego defines first-generation college students as students with neither parent having a four-year college degree.

- a. Yes
- b. No

56. Were you Pell Grant eligible when you were admitted to UC San Diego?

- a. Yes
- b. No

57. Gender

- a. Man
 - b. Woman
 - c. Trans Man
 - d. Trans Woman
 - e. Non-binary
58. Are (were) you an international student?
- a. Yes
 - b. No
59. Ethnicity (Select all that apply)
- a. Black / African American
 - b. American Indian / Alaskan Native
 - c. Asian / Pacific Islander
 - d. Latinx / Hispanic
 - e. White
 - f. Other: _____
60. Would you be willing to participate in an interview about your experience in engineering at UC San Diego? If so, please provide your email address _____