



HSI STEM Grant Program

**Attract, Inspire, Mentor and Support Students (AIMS²)
2018 Summer Skills Workshop Assessment
Executive Summary
June 2019**

**Prepared for
California State University, Northridge's (CSUN)
College of Engineering and Computer Science**

CSUN

COLLEGE OF
**ENGINEERING AND
COMPUTER SCIENCE**

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College of Engineering and Computer Science
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Background

Over the past two summers (2017 and 2018), AIMS² has sought to help incoming first-time freshmen and first-time transfer students to better orient themselves to campus life and the rigors of being an undergraduate student in an engineering and computer science field. To this end, project faculty and staff developed the Summer Skills Workshop, a multiday, multi-event summer orientation that focuses on building the skills and resources that students need to succeed in engineering and computer science majors at CSUN. As an approach to assess workshop outcomes, explore how workshop sessions shape students who participate in them, and to continuously improve workshop content and processes, the 2018 summer skills workshop has been evaluate—with overall patterns in results and tables presented below.

Methods

An overall mixed-methods design was used to assess the 2018 summer skills workshops, including a one-shot posttest survey and a focus group interview. Five survey instruments were developed, based on workshop sessions for each day (see workshop sessions by workshop day in the scaled items in the tables below) for 2018 Summer Skills Workshops. A total of four workshops were offered (two First-Time Freshmen and two First-Time Transfer workshops) and occurred on the following dates:

First-Time Freshmen Workshops (n=2): July 23-25 and July 30-August 1
First-Time Transfer Workshops (n=2): July 26-27 and August 2-3

At or near the end of each workshop day (Monday-Wednesday for First-Time Freshmen Workshops and Thursday-Friday for First-Time Transfer Workshops) print surveys were distributed to participants. A total of 43 workshop participants completed a survey for the First-Time Freshmen Workshops, and 22 workshop participants completed a survey for the First-Time Transfer Workshops (see tables below for more details, including demographic data). After data collection ended, data entry followed—and data analysis included frequency analysis.

In addition to workshop surveys, second data collection procedure was used—focus group interview. To avoid workshop participants feeling excluded from a focus group, a group interview session was facilitated approximately two months after the 2018 Summer Skills Workshop—in the early Fall 2018 term. Focus group (N = 6, first-time freshmen = 4; first-time transfers =2) questions intended to explore in-depth descriptions of how workshop sessions shaped participants after having spent time at CSUN. The focus group session was recorded, transcribed, and analyzed—with summary results reported as selected patterns in the enumerated list below and separately in the accompanying presentation.

Overall Patterns in Results

Upon collecting these two forms of survey and focus group feedback, general observations about overall patterns for both first-time freshmen and first-time transfer survey respondents who participated in the 2018 Summer Skills Workshop:

- The 2018 Summer Skills Workshop appears to have been successful with each of the sessions rating extremely high with all of the survey respondents on most measures of agreement, satisfaction, benefit, and enjoyability.
- As a general pattern, ratings of satisfaction, benefit, and enjoyability tend to track together—for example, higher ratings of an item on satisfaction generally corresponds to higher ratings of benefit and enjoyability, too. On Monday of the First-Time Freshmen Workshops, survey respondents reported the highest satisfaction, benefit (equal to “What Is Engineering? Session), and enjoyability of the “Resources and CSUN” session.
- Both first-time freshman and first-time transfer workshop survey respondents reported that the tours of campus and the engineering labs were among the more helpful beyond the workshop. A direct quote from a focus group participant illustrates this pattern:
 - “...the library tour was definitely helpful cause I’ve actually used a couple of the resources that I assume would be hard to find otherwise like the media library, like I’ve 3D printed a couple things” (Focus Group).
- First-time freshmen workshop survey respondents reported feeling a bit awkward with the Ice Breaker. Further, respondents reported lower levels of agreement that the Ice Breaker “a good way for me to get to know the students around me.” Finally, respondents reported lower levels of satisfaction and benefit of this session. The following direct quote from a focus group participant extends this result:
 - “...I got to say that it was a little bit awkward cause it was right off the bat and we didn’t know each other we were just reading off those flash cards, those business cards so it was kind of a little bit awkward cause two minutes felt like forever” (Focus Group)>
- First-time freshmen workshop survey respondents reported that they felt that the Growth Mindset session could have been a little more interesting having had to watch a video on the subject. In fact, survey respondents reported lower levels of satisfaction, benefit, and enjoyability with session. To this point, one survey respondent said simply, “The growth mindset video is really long to really enjoy” (Open Ended Survey Response).
- First-time transfer workshop survey respondents reported that they enjoyed the presentation of previous Senior Design Projects. You can see this pattern poignantly described below by a focus group participant:

- “My favorite part was when the professors were explaining like what sort of senior projects they had done before. Hearing about those were cool, they do some interesting things like uh the concrete canoe is mind-boggling. The computer science professor, Professor Dewey, talked about how they made uh, how they controlled the water irrigation system around here and that was one of their senior projects. And hearing about that kind of got me thinking about the types of things we can do for our senior project so I thought that was pretty interesting” (Focus Group).
- By far, first-time transfer workshop survey respondents rated the “Understanding Your DPR” session highest in terms of satisfaction, benefit, and enjoyability. The breakout session to plan fall courses also rated high on satisfaction among workshop participants who completed a survey.
- First-time transfer workshop survey respondents reported the strongest agreement with the following statement: “I feel these resources are accessible for me to use when [I] arrive at CSUN.” Higher levels of satisfaction, benefit, and enjoyability were observed on the campus resources session, too.
- First-time freshman workshop survey respondents rated the final competition highest of all among all the other sessions, stating that they found it extremely fun and worthwhile. The following focus group participant summed it up well:
 - “I really liked the third day activity where we had to make shoes out of duct tape, ... we learned so many things even if it’s just about engineering we’ve thought more about, we had a chance to think about it more” (Focus Group).
- Both first-time freshman and first-time transfer workshop survey respondents in both groups enjoyed meeting their future professors, stating that with meeting them and eventually being mentored by them has helped them be successful in their first year. The following two stories illustrate this pattern well:
 - “...I started to feel overwhelmed I’m part of the aims mentor collective as well and that mentorship really helped me like get back on track and do better with my classes” (Focus Group).
 - “So like the professors, like I kind of can’t stress that enough, being able to talk with a professor in what you want to do, is probably like, what I feel is the most helpful part of the program for me. Um you know we got introduced to them in the workshop so that was definitely helpful. Then we got to talk to them about the classes we were taking so we get a little insight into what to expect and stuff like that” (Focus Group).

Tables

Demographics of First-Time Freshmen Workshop Participants

Frequency Table of the Reported Sex of Students Who Attended the First Time Freshmen Workshop

Sex	Frequency	Percent	%
Female	14	32.6	32.6
Male	29	67.4	67.4
Total	43	100	100

**Student's totals based on Monday*

Frequency Table of the Reported Ethnicity of Students Who Attended the First Time Freshmen Workshop

Ethnicity	Frequency	Percent	%
Armenian	2	4.7	4.7
Asian American	5	11.6	11.6
Asian/Pacific Islander	1	2.3	2.3
Black/African American	2	4.7	4.7
Black/Latinx	1	2.3	2.3
Latinx	24	55.8	55.8
White	8	18.6	18.6
Total	43		

**Student's totals based on Monday*

Frequency Table of the Reported Major of Students Who Attended the First Time Freshmen Workshop

Field of Study	Frequency	Percent	%
Civil Engineering	11	25.6	25.6
Computer Engineering	4	9.3	9.3
Computer Science	11	25.6	25.6
Construction Management Technology	2	4.7	4.7
Electrical Engineering	2	4.7	4.7
Engineering Management	1	2.3	2.3
Mechanical Engineering	12	27.9	27.9
Total	43		

**Student's totals based on Monday*

Monday First-Time Freshmen Workshop Outcomes

Means and Standard Deviations of Workshop Outcomes for First Time Freshmen on Monday (Scale: Strongly Disagree, Disagree, Somewhat Disagree, Neither Agree Nor Disagree, Somewhat Agree, Agree, Strongly Agree)

Session	N	Mean	Std. Deviation
I felt as if the check in process was smooth and easy to understand	43	6.09	1.25
I felt the ice breaker was a good way for me to get to know the students around me.	43	5.72	1.297
I feel as if I understand what career opportunities student have after I graduate from CSUN.	42	5.83	1.08
I feel as if I have more of an understanding of my major	42	6.38	0.909
I feel as if I understand how growth mindset can help me during the school year.	43	5.93	1.183
I feel as if I understand the resources available to me by CSUN.	42	6.1	1.078

Means and Standard Deviations of Workshop Satisfaction for First Time Freshmen on Monday (Scale: Very Dissatisfied, Dissatisfied, Neither Satisfied Nor Dissatisfied, Satisfied, Very Satisfied)

Session	N	Mean	Std. Deviation
Ice Breaker	42	3.86	0.783
What Is Engineering? Careers in Engineering? Session	43	4.53	0.505
Growth Mindset	43	3.79	0.888
Resources at CSUN	41	4.63	0.488

Means and Standard Deviations of "Benefit" Ranking of Workshop Outcomes for First Time Freshmen on Monday (Scale: 1 is the most beneficial and 4 is the least beneficial)

Session	N	Mean	Std. Deviation
Ice Breaker	43	3.21	0.888
What Is Engineering?	43	1.72	0.882
Growth Mindset	43	3.28	0.797
Resources at CSUN	43	1.72	0.734

**Student's ranked sessions with the lowest score being the highest ranked and the largest score being the lowest ranked*

Means and Standard Deviations of "Enjoyability" Ranking of Workshop Satisfaction for First Time Freshmen on Monday (Scale: 1 is the most enjoyable and 4 is the least enjoyable)

Session	N	Mean	Std. Deviation
Ice Breaker	43	2.3	1.145
What Is Engineering?	43	1.79	0.861
Growth Mindset	43	3.23	0.895
Resources at CSUN	43	2.6	1.072

**Student's ranked sessions with the lowest score being the highest ranked and the largest score being the lowest ranked*

Open-Ended Responses, Workshop Feedback Items, First-Time Freshman on Monday

What are some things you feel good about the session you had today?

The information was new and informative

All the guest speakers were very helpful and provided us with a lot of information. I feel comfortable because everyone was so welcoming and nice.

I felt I learned more about the school and the support that I can get.

What are some things you feel that need changing or improving for future workshops?

The length of the mind set video could be shorter

Show more examples of careers/ types of jobs after CSUN.

Include Students so they don't get tired

In the space provided below, please write about your experience and feelings at today's Summer Skills Workshop.

I feel that it was a positive use of my time and feel more prepared. It got me interested to maybe minor in something.

I enjoyed most of it, but felt the mindset was unnecessary.

I loved the workshop, I feel way more confident about starting in the fall!

Tuesday First-Time Freshmen Workshop Outcomes

Means and Standard Deviations of Workshop Outcomes for First Time Freshmen on Tuesday (Scale: Strongly Disagree, Disagree, Somewhat Disagree, Neither Agree Nor Disagree, Somewhat Agree, Agree, Strongly Agree)

Session	N	Mean	Std. Deviation
I feel as if I understood the resources that library has to offer available to me.	37	6.59	0.686
I found touring the Engineering Research Labs to be informative and helpful for understanding what opportunities are available at CSUN.	38	6.71	0.515
I found the Team Building Skills workshop to be helpful and informative.	38	6.18	1.182
I feel that I better understand the importance of Ethics in Engineering	38	6.26	0.76

Means and Standard Deviations of Workshop Satisfaction for First Time Freshmen on Tuesday (Scale: Very Dissatisfied, Dissatisfied, Neither Satisfied Nor Dissatisfied, Satisfied, Very Satisfied)

Session	N	Mean	Std. Deviation
Library Tour	36	4.78	0.54
Engineering Lab Tour	37	4.76	0.495
Team Building	38	4.37	0.751
Engineering Ethics	38	4.18	0.652

Means and Standard Deviations of "Benefit" Ranking of Workshop Outcomes for First Time Freshmen on Tuesday (Scale: 1 is the most beneficial and 4 is the least beneficial)

Session	N	Mean	Std. Deviation
Library Tour	38	1.82	0.982
Engineering Lab Tour	38	1.58	0.599
Team Building	38	3.08	0.912
Ethics in Engineering Workshop	38	3.32	0.775

**Student's ranked sessions with the lowest score being the highest ranked and the largest score being the lowest ranked*

Means and Standard Deviations of "Enjoyability" Ranking of Workshop Satisfaction for First Time Freshmen on Tuesday (Scale: 1 is the most enjoyable and 4 is the least enjoyable)

Session	N	Mean	Std. Deviation
Library Tour	37	2.08	0.894
Engineering Lab Tour	37	1.68	0.747
Team Building	37	2.43	1.015
Engineering Ethics	36	3.72	0.513

**Student's ranked sessions with the lowest score being the highest ranked and the largest score being the lowest ranked*

Open-Ended Responses, Workshop Feedback Items, First-Time Freshman on Tuesday

What worked well in today's workshop?

It help me to understand the lab and how and which product are available for our use in CSUN here.

Everything mainly the library and rescources

Working in group(s) was an icebreaker and a step out of people's comfort zone

What would you change from today's workshop?

I would change the ethics site, needs more detail

Not to cold in the classroom

Try to get the speaker to show up

In the space provided below, please write about your experience and feelings at today's Summer Skills Workshop.

My experience was great and I felt good.

It was amazing and helpful to discover more about CSUN

I loved talking my ideas with other people

Wednesday First-Time Freshmen Workshop Outcomes

Means and Standard Deviations of Workshop Outcomes for First Time Freshmen on Wednesday (Agreement: Strongly Disagree, Disagree, Somewhat Disagree, Neither Agree Nor Disagree, Somewhat Agree, Agree, Strongly Agree)

Session	N	Mean	Std. Deviation
I feel as if I got a lot out of the Final Competition.	39	6.13	0.894
I feel [I] understand the purpose of the Final Competition and it's rules	39	6.15	0.875
I feel like I have a good understanding of Entrepreneurial Minded Learning	39	5.97	0.986
I feel as if "How to Stay Connected In Year 1" was helpful.	39	6.31	0.8

Means and Standard Deviations of Workshop Satisfaction for First-Time Freshmen on Wednesday (Scale: Very Dissatisfied, Dissatisfied, Neither Satisfied Nor Dissatisfied, Satisfied, Very Satisfied)

Session	N	Mean	Std. Deviation
Final Competition	39	4.69	0.521
Entrepreneurial Minded Learning	39	4.28	0.759
How To Stay Connected In Year 1	39	4.51	0.601

Means and Standard Deviations of "Benefit" Ranking of Workshop Outcomes for First-Time Freshmen on Wednesday (Scale: 1 is the most beneficial and 4 is the least beneficial)

Session	N	Mean	Std. Deviation
Final Competition	38	1.61	0.855
Entrepreneurial Minded Learning	38	2.24	0.751
How To Stay Connected In Year 1	38	2.05	0.733

**Student's ranked sessions with the lowest score being the highest ranked and the largest score being the lowest ranked*

Means and Standard Deviations of "Enjoyability" Ranking of Workshop Satisfaction for First-Time Freshmen on Wednesday (Scale: 1 is the most enjoyable and 4 is the least enjoyable)

Session	N	Mean	Std. Deviation
Final Competition	38	1.18	0.563
Entrepreneurial Minded Learning	38	2.29	0.654
How To Stay Connected In Year 1	38	2.45	0.602

**Student's ranked sessions with the lowest score being the highest ranked and the largest score being the lowest ranked*

Open-Ended Responses, Workshop Feedback Items, First-Time Freshman on Wednesday

What are some things you feel good about the session you had today?

Being able to work as a team and sharing ideas

The competition was fun and good learning experience

It was fun and a great way to connect to new people.

What are some things you feel that need changing or improving for future workshops?

Something that needed improvement was giving the students breaks, and time management

Make the completion about 10 to 20 minutes longer

The entrepreneurial-minded topic could have been more active. Put the things we learned into action.

In the space provided below, please write about your experience and feelings at today's Summer Skills Workshop.

It was new and fun

Today was very exciting because I still learned a lot. The group project was fun.

It was amazing!

Demographics of First-Time Transfer Workshop Participants

Frequency Table of the Reported Sex of Students Who Attended the First-Time Transfers Workshop

Sex	Frequency	Percent	%
Female	3	13.6	13.6
Male	19	86.4	86.4
Total	22	100	100

**Student's totals based on Thursday*

Frequency Table of the Reported Ethnicity of Students Who Attended the First-Time Transfers Workshop

Ethnicity	Frequency	Percent	%
Asian American	5	22.7	22.7
Indian	1	4.5	4.5
Latinx	10	45.5	45.5
Pacific Islander	1	4.5	4.5
White	4	18.2	18.2
White/ Armenian	1	4.5	4.5
Total	22	100	100

**Student's totals based on Thursday*

Frequency Table of the Reported Major of the Students Who Attended the First-Time Transfers Workshop

Major	Frequency	Percent	%
Civil Engineering	1	4.5	4.5
Computer Engineering	1	4.5	4.5
Computer Information Technology	1	4.5	4.5
Computer Science	8	36.4	36.4
Electrical Engineering	5	22.7	22.7
Mechanical Engineering	6	27.3	27.3
Total	22	100	100

**Student's totals based on Thursday*

Thursday First-Time Transfer Workshop Outcomes

Means and Standard Deviations of Workshop Outcomes for First-Time Transfers on Thursday (Scale: Strongly Disagree, Disagree, Somewhat Disagree, Neither Agree Nor Disagree, Somewhat Agree, Agree, Strongly Agree)

Session	N	Mean	Std. Deviation
I feel as if I understand the expectations after transferring.	22	6.45	1.101
I feel the expectations for next year are clear and actionable	22	6.18	1.332
I found the team building workshop helpful	21	6.38	1.431
I feel like the library tour provided good insight about resources at CSUN.	21	6.43	1.535
The CECS lab tour gave me an understanding of what type of research is being done at CSUN	20	6.55	1.356

Means and Standard Deviations of Workshop Satisfaction for First-Time Transfers on Thursday (Scale: Very Dissatisfied, Dissatisfied, Neither Satisfied Nor Dissatisfied, Satisfied, Very Satisfied)

Session	N	Mean	Std. Deviation
Transferring	22	4.55	0.51
Team Building	22	4.59	0.666
Lab Tour	22	4.77	0.528

Means and Standard Deviations of "Benefit" Ranking of Workshop Outcomes for First-Time Transfers on Thursday (Scale: 1 is the most beneficial and 4 is the least beneficial)

Session	N	Mean	Std. Deviation
Expectations when Transferring to CSUN	20	1.75	0.91
Team Building Skills	20	2.7	1.342
Library Tour	20	2.05	1.099
CECS Lab Tour	20	1.65	0.933

**Student's ranked sessions with the lowest score being the highest ranked and the largest score being the lowest ranked*

Means and Standard Deviations of “Enjoyability” Ranking of Workshop Satisfaction for First-Time Transfers on Thursday (Scale: 1 is the most enjoyable and 4 is the least enjoyable)

Session	N	Mean	Std. Deviation
Expectations when Transferring to CSUN	20	1.75	0.91
Team Building	20	1.65	0.875
Library Tour	20	1.7	0.865

**Student's ranked sessions with the lowest score being the highest ranked and the largest score being the lowest ranked*

Open-Ended Responses, Workshop Feedback Items, First-Time Transfers on Thursday

What are some things you feel good about the session you had today?

They were clear and informational. I know more about what I can do now than before
Library tour was excellent. Everyone was very helpful.

Tour of the labs helped me become more oriented with the engineering department.

What are some things you feel that need changing or improving for future workshops?

Give us a larger tour of the campus. Include the rec center and game room and oasis

The timing should be earlier so schedule advice can be followed seeing classes are generally full at this time. Also, the team-building exercise seemed unnecessary.

Stick to the schedule as far as taking a break

In the space provided below, please write about your experience and feelings at today's Summer Skills Workshop.

I feel ready and excited to start classes thanks to this workshop

I enjoyed getting along with other students in the same department. I got to learn a lot about the campus, professors, and staffs.

This workshop was very useful. I am very satisfied. This motivated me so much to do well in my university career.

Friday First-Time Transfer Workshop Outcomes

*Means and Standard Deviations of Workshop Outcomes for First Time-Transfers on Friday
(Scale: Strongly Disagree, Disagree, Somewhat Disagree, Neither Agree Nor Disagree, Somewhat Agree, Agree, Strongly Agree)*

Session	N	Mean	Std. Deviation
I feel that the I understand what resources are available at CSUN	19	6.58	1.387
I feel these resources are accessible for me to use when [I] arrive at CSUN	19	6.63	1.383
I have a better understanding about the Senior Design Project	19	6.47	1.389
The Senior Design Project workshop helped me feel at ease about what is required to graduate	19	6.05	1.58
I feel that I have a good understanding how to read my DPR	19	6.42	1.427
I understand what types of classes I should take to make sure I stay on track to graduate	18	6.22	1.437
The Requirements after transferring workshop gave me a good understanding of how much my workload should be at CSUN	19	6.32	1.376

*Means and Standard Deviations of Workshop Satisfaction for First Time-Transfers on Friday
(Scale: Very Dissatisfied, Dissatisfied, Neither Satisfied Nor Dissatisfied, Satisfied, Very Satisfied)*

Session	N	Mean	Std. Deviation
Resources at CSUN	19	4.74	0.562
Understanding the Senior Design Project	19	4.58	0.507
Understanding Your DPR	19	4.84	0.375
Requirements After Transferring (Majors/GE) Session	19	4.63	0.496
Breakout To Plan Fall Course Schedule	19	4.68	0.582

Means and Standard Deviations of “Benefit” Ranking of Workshop Outcomes for First-Time Transfers on Friday (Scale: 1 is the most beneficial and 4 is the least beneficial)

Session	N	Mean	Std. Deviation
Resources	12	2	0.853
Senior Design Project	12	1.67	0.888
DPR	12	1.42	0.669

**Student's ranked sessions with the lowest score being the highest ranked and the largest score being the lowest ranked*

Means and Standard Deviations of “Enjoyability” Ranking of Workshop Satisfaction for First-Time Transfers on Friday (Scale: 1 is the most enjoyable and 4 is the least enjoyable)

Session	N	Mean	Std. Deviation
Resources at CSUN	13	2.38	1.387
Understanding the Senior Design Project	13	2.46	1.506
Understanding Your DPR Requirements After Transferring (Majors/GE) Session	13	1.77	1.013
Breakout To Plan Fall Course Schedule	12	2.92	1.564
	12	2.33	1.723

**Student's ranked sessions with the lowest score being the highest ranked and the largest score being the lowest ranked*

Open-Ended Responses, Workshop Feedback Items, First-Time Transfers on Friday

What are some things you feel good about the session you had today?

The Q/A opportunity with a professor from our department and understanding the senior design project were great!

That I'll be prepared to what challenges (academic) lies ahead in the future. I'm well informed about the resources that are available for me. I feel really excited to start my first semester here at CSUN.

Very informative, finally understand how to read my DPR. Before it was a way to confusing the way they explained each departments requirement was useful, the one on one at the end was great, most useful.

What are some things you feel that need changing or improving for future workshops?

Some of the topics from 2 or 3 speakers are kind of redundant like telling about Probation and disqualification. But other than that everything else was beautifully delivered

Different/more variety in food.

I feel like time management has to be better. We took a 30 minute lunch instead of an hour.

However, I prefer a 30-minute lunch instead of 1 hour.

In the space provided below, please write about your experience and feelings at today's Summer Skills Workshop.

I feel more prepared for this semester and ready to make use of the many resources available.

Loved it!

I feel so much comfortable now that I'll be starting my first semester at CSUN this fall.

Everyone was helpful and wonderful in and some were funny but in a good way. Go matadors!