

Comprehensive Program Review

A. Department Information

Mission

Please enter your department's mission statement here.

The mission of the Environmental Studies Department is to provide students with a diverse offering of classes that meet the transfer needs of students, prepare students through enhancement of the college's institutional core competencies for careers in industry, and make them aware, knowledgeable, and strong stewards of the planet and the environment. We engage students in the study of climate change, energy management, resource management, pollution prevention, and biodiversity with a focus on integrity, equity and innovation. Our goal is to create and grow awareness and advocacy for protecting the environment and the health of the ecosystems that support life on earth while developing the human capacity of our students.

How does your program mission statement relate to the mission, vision and values of the college? (<https://www.deanza.edu/about-us/mission-and-values.html>)?

The environmental studies (and environmental science) mission statement is in alignment with the College's mission, vision, and values of the college. The institutional core competencies connect to the discipline content naturally because they are the foundation of understanding environmental studies. Civic capacity for environmental justice is a core competency and an important part of the program content. Environmental studies teach empowerment with a sustainability mindset, which overlaps with De Anza's values and visions of student success.

Program Goals

Enter 1-3 goals for your department to be achieved by spring 2027. Each annual reflection will ask your department to report on progress in meeting your goals. Each goal should be aligned to your department's mission and the college mission. All resource requests and personnel requests should be aligned with your program's mission and goals.

Goal title	Goal description	Responsible parties	Collaboration with	Guided Pathways engagement	What evidence will be used to monitor progress?	How will you assess achievement of the goal?
Growth of Energy Management Building Science (EMBS), Facility and Sustainable Building Management (FSBM) and Energy Resource Management and Pollution Prevention (ERMPP) programs	Grow yearly enrollment by 5% / yr. and the number of awards each year by 5 awards/year to help fill growing and well-paid career opportunities in sustainable and energy efficient building management.	Faculty, Classified, Staff, BHES Counselor and Dean	College and District facilities, DA student services, industry partners	This goal aligns with the guided pathways mission of the college because it allows students to explore careers while students continue along their educational journey.	Increase in enrollment	We will assess this goal by Certificates awarded, and AS Degrees awarded as noted in the ES Program Review Datasheet.
Student Success	Continue to grow student success rates in all demographic categories	Department faculty, staff, BHES counselor and Dean	Financial Aid, De Anza Connect	This goal aligns with the guided pathways mission of the college because it allows students to find the resources to be successful in their educational and career goals	Student Success Rates as noted in the ES Program Review Datasheet	Reduction in the equity gaps amongst different student populations and increase in success rates for all student groups per the ES Program Review Datasheet

Changes Imposed by Internal/External Regulations or Factors

Are there factors unique to your program that may affect your enrollment, success rates or staffing that RAPP should be aware of? (e.g., curriculum changes, program reorganization, noncredit curriculum, loss of personnel, legislative mandates, etc.)

Clean energy laws and regulations globally and in California continue to create great career opportunities for students pursuing Certificates and Degrees in the Energy and Facility Management of Buildings and Environmental Resource Management and Pollution Prevention (ERM&P2).

As requested and required by our advisory committee, additional curriculum and more course depth and specialization requiring additional mathematical acumen than students are currently prepared for presents challenges to both enrollment growth and student success. To be successful, students need to be able to understand and master mathematical equations, heat transfer rates, conversions from Watts-to Kilowatts- to Kilowatt Hours and other mathematical theories and principles. This knowledge and skills are required for employment and success in clean energy and building efficiency careers.

B. Enrollment Trends

Enrollment Variables and Trends

Enrollment Trends						
Biol, Health, Env Sc, Wrkfr Ed - Environmental Studies-DA						
	2018-19	2019-20	2020-21	2021-22	2022-23	5-yr %Inc
Unduplicated Headcount	1,250	1,464	1,367	927	1,059	-15.3%
Enrollment	1,904	2,137	2,154	1,498	1,633	-14.2%
Sections	69	70	73	59	65	-5.8%
WSCH	2,082	2,350	2,341	1,652	1,781	-14.5%
FTEs (end of term)	139	157	156	110	119	-14.4%
FTEF (end of term)	4.3	4.8	5.0	4.0	4.2	-2.8%
Productivity (WSCH/FTEF)	485	489	470	409	427	-12.0%

In the data table above, what does the Enrollment trend indicate? For definitions of enrollment terms, please see the glossary (<https://www.deanza.edu/ir/documents/Glossary.pdf>).

- the data trend shows an increase in Enrollment
- the data trend shows a decrease in Enrollment
- the data trend shows no change and/or flat in Enrollment

Reflect on Enrollment Trends

Discuss the factors that would help the college understand your programs' enrollment trends. How may these trends align with your program mission and goals?

The data shows an increase in enrollment during the pandemic when most students were most likely working from home and had more time to devote to online classes. As we came out of the pandemic, initially the enrollment over corrected and saw a drop but in the last year we have seen a health growth and for Fall 2023 enrollment is up again by 15% .

The ES courses and CTE programs were well suited to the switch to online teaching during the pandemic, as faculty in these areas had worked hard to take each and every class online since before COVID hit.

The faculty have worked hard to take each and every class online since before COVID hit. This provided a couple of benefits as it relates to program enrollment and student's declaring EMBS, FSBM, and ERMPP as their main educational focus:

1. Students continue to be afforded the opportunity and ability to take classes online allowing them to work at their own convenience and on their own schedules
2. The ability to draw students and program majors from outside De Anza's geographic service area increases program enrollment and students pursuing awards.

Additionally, recruitment in GE classes such as ES 1- Intro to Environmental Studies and ES 4- Energy, the Environment and Society have allowed instructors to approach students who may not be interested in 4 year college transfer nor have the financial means to pay for high college tuitions. EMBS, FSBM, and ERMPP certificates and degrees offer a very good living wage career option for those who want to enter the workforce immediately after earning a certificate or AS Degree.

CTE Programs - Statewide and Regional Labor Market Trends

CTE Programs Only

1. Review and summarize the Lightcast Analyst Occupational Outlook data for your CTE program (<https://foothilldeanza.sharepoint.com/:f/s/dactedepartments/EiRTueQ8GrNLqItlQw2twpsBMFCs7X5djTVeo6Jss3W0Jg?e=1ybpmY>).
2. Cite current industry trends.
3. Provide an overview of your program advisory committee's recommendations relating to existing and new course and certificate/degree offerings. Cite additional data when applicable.

Labor Market/Industry Trends (ERM&P2 Program): Environmental Science and Protection Technicians are cited by the US Dept of Labor (O-NET Online) as having a projected growth of 8% over the 2022-2032 timeframe nationally and 18% in California.

Advisory Board Input/Recommendations: Work focus is to be on updating course curriculum for the majority of the courses in the program to reflect industry advances and trends. Additionally, to aid students, will review and update/expand the information provided on the ERM&P2 website, with a particular emphasis on the "Job and Career Resources" and "Internship Resources" sections.

Labor Market/Industry Trends EMBS and FSBM is geared toward *Facility Managers (industry code: 11-3013)* and *Sustainable Building Specialists (Industry code: 13-1199)*

Facility Management job forecast is sited by the Bureau of Labor Statistics for Projected Growth (2022-2036) in both California and the Bay area: Faster than average 10-14% with mean hourly wages: \$54.18/Hr (annual- \$112,680) and \$62.91/Hr (annual \$130, 840) respectively.

Sustainable Building Specialists job forecast is sited by the Bureau of Labor Statistics for Projected Growth (2022-2036) in both California and Bay area : faster than 10-14% with mean hourly wages: \$41.45 /Hr (annual \$86,220) and respectively \$45.95 (annual- \$95,580)

Advisory Board Input/Recommendations: As a result of the projected increase in the cost of energy over time, wasted energy in buildings due to inefficient building operational processes, changes and improvements in building construction and energy management technology, and the resultant need for new and updated knowledge and skill sets, our advisory committee has requested we add content to many of our existing classes. The EMBS team made these curriculum changes and either changed the course description and/ or increased the course unit count as a result of specific content added to many of our required degree courses. The changes were made in eLumen and will become effective in catalog year 2024-2025

D. Course Success

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Course Success

Environmental Studies-DA

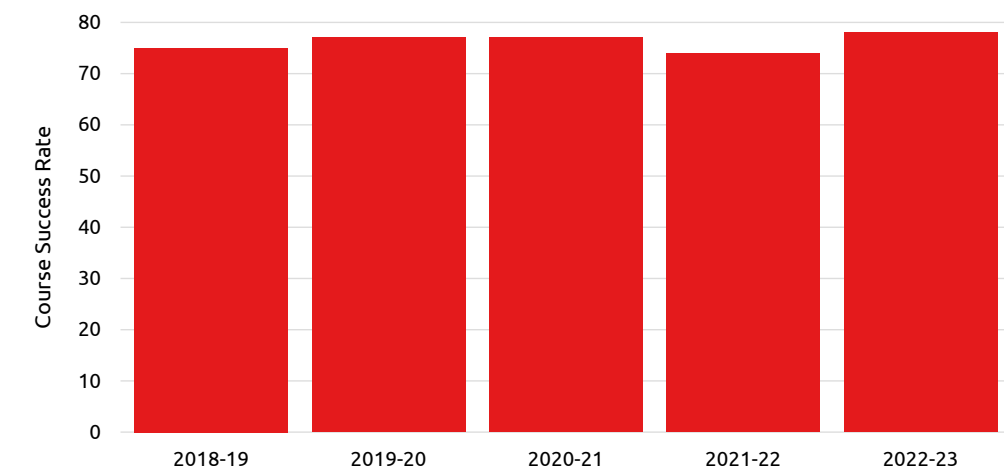
Who uses this report:

All users who want to further explore their enrollment or course success data.

What is this report:

This report is an extension of the Program Review Data Sheet. It has additional student characteristics and users can compare two groups of students at the same time.

Limits:



Limits:

Measures: Enrollments and Course Success Rate and Success Count

	2018-19			2019-20			2020-21			2021-22			2022-23		
	Enrollments	Course Success Rate	Success Count	Enrollments	Course Success Rate	Success Count	Enrollments	Course Success Rate	Success Count	Enrollments	Course Success Rate	Success Count	Enrollments	Course Success Rate	Success Count
Measures	1,904	75%	1,422	2,137	77%	1,649	2,154	77%	1,667	1,498	74%	1,111	1,633	78%	1,268

In the data table above, what overall trends are you seeing in Course Success?

- the data trend shows an increase in Course Success
- the data trend shows a decrease in Course Success
- the data trend shows no change in Course Success

Exploring Course Success Rate Trends

1. What could be factors that influence success rates in your department?
2. What strategies does your department have in place to increase or maintain current success rates?
3. Are there other trends that you see when exploring different courses in the same department (How to access success rates by course: https://www.deanza.edu/ir/documents/How_to_Access_Your_Program_Review_Data.pdf)
4. How do course success rate trends align with your program goals?

Our success rate increased to 78% this past year. They remain stable in the mid to high 70% range. More focus on basic level math theories and principles and more one-on-one time with students to determine and discuss additional barriers to success will influence success rates in the department. Additional remedial and basic math principles and theories have now been integrated into our required ES 70- Introduction to Energy Basics Course. Steady student success rate increases in all demographic groups year-on-year is lifting both the success rates of students in our classes and the number of certificates and degrees being awarded. Courses are particularly popular among non-traditional students, including military veterans and single parents. Our courses are also leaders in online education, being some of the few college-wide offering fully online certificates that give flexibility to students while reducing the carbon footprint.

Course Success with Disproportionate Impact (credit and non-credit)

Limits: 2022-23

Who uses this report:

All users who want to explore student equity and disproportionate impact in course success.

What is this report:

This report highlights student groups with a negative percentage point gap and student groups experiencing disproportionate impact. Data reflects credit sections. Student groups with "N/A" enrollment denotes suppressed data.

How to interpret the data:

A negative percentage point gap means a student group has a lower success rate than the comparison group consisting of all students not in the student group being examined. When a student group is experiencing disproportionate impact, this means that (1) there is a negative percentage point gap and (2) this gap is unlikely to be due to chance. Programs are encouraged to prioritize discussions and address the student groups experiencing disproportionate impact.

New features:

To display only student groups with disproportionate impact, click on the link "Click here to show only groups with disproportionate impact." To add a comparison unit that is one level higher (e.g., course level compared to department level), **be sure to select a college, division, department or course**, then click on the link "Click here to show and compare disproportionate impact with [X]".

Success rate

The number of students receiving an A, B, C or P grade divided by the total number of students receiving a grade. Rate is rounded.

Comparison success rate

The success of all students except for the group being examined (e.g., the comparison success rate for Latinx students is the success rate of all students who are not Latinx). Rate is rounded.

Additional successes needed to erase percentage point

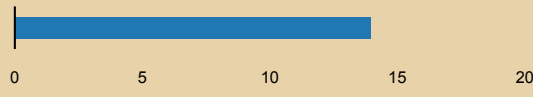
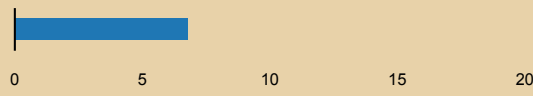
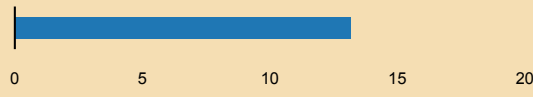
This value provides a way for practitioners to think of gaps in terms of student successes, and illustrates the number of additional successes needed to avoid a percentage point gap.

Legend:

- Yellow:** Student groups experiencing a negative percentage point gap that is not statistically significant
- Orange:** Student groups experiencing disproportionate impact according to the Percentage Point Gap Minus One (PPG-1) method¹

Currently showing all groups. [Click here to show only groups with disproportionate impact.](#)

[Click here to show and compare disproportionate impact with .](#)

Student group	Enrollment at census	Student group success rate	Comparison success rate	Percentage point gap	Chart	Additional successes needed to erase percentage point gap
All Students (Environmental Studies-DA, 65 sections)	1,633	78%	78%	0		
Asian	500	84%	75%	+9		
Black	70	64%	78%	-14		10
Filipinx	85	81%	77%	+4		
Latinx	475	73%	80%	-7		33
Native American	15	80%	78%	+2		
Pacific Islander	13	85%	78%	+7		
Unknown ethnicity	75	85%	77%	+8		
White	400	76%	78%	-3		12
Female	722	77%	78%	-1		11
Male	886	78%	77%	+1		
Non-Binary	N/A					
Unknown gender	23	78%	78%	+1		
Foster youth	N/A					
Individuals with disabilities	50	76%	78%	-2		1
Low Income	776	71%	84%	-13		103
Not Low Income	857	84%	71%	+13		
Veterans	49	94%	77%	+17		

¹The PPG-1 method follows the CCCCO method for calculating disproportionate impact. Disproportionate impact is when (1) a student group's PPG value is less than -2 (e.g., -3, -4, -5, etc.) and (2) the absolute PPG value is greater than the calculated margin of error. PPG is calculated by comparing a student group's success rate against the success rates of all students except for the group being examined (e.g., Latinx PPG is Latinx success minus the success of all students except for Latinx students).

In the data table above, what does the data indicate about the Success rate of various ethnic groups within your department compared to the comparison group for the most recent academic year? (i.e., as displayed in the Percentage point gap column)

The Percentage point gap between Asian students and all other students shows:

- there is no gap (e.g., 0)
- there is a negative gap of 5-percentage points or less (e.g., -5)
- there is a negative gap greater than 6 percentage points (e.g., -6)
- there is a positive percentage point gap (e.g., +2)

The Percentage point gap between Black students and all other students is:

- there is no gap
- there is a negative gap of 5-percentage points or less
- there is a negative gap greater than 6 percentage points
- there is a positive percentage point gap

The Percentage point gap between Filipinx students and all other students is:

- there is no gap
- there is a negative gap of 5-percentage points or less
- there is a negative gap greater than 6 percentage points
- there is a positive percentage point gap

The Percentage point gap between Latinx students and all other students is:

- there is no gap
- there is a negative gap of 5-percentage points or less
- there is a negative gap greater than 6 percentage points
- there is a positive percentage point gap

The Percentage point gap between White students and all other students is:

- there is no gap
- there is a negative gap of 5-percentage points or less
- there is a negative gap greater than 6 percentage points

there is a positive percentage point gap

The Percentage point gap of one additional group of your choice:

there is no gap

there is a negative gap of 5-percentage points or less

there is a negative gap greater than 6 percentage points

there is a positive percentage point gap

not applicable

Exploring Gaps in Successful Course Completion by Ethnicity

1. What differences do you see in successful course completion rates by ethnicity?
2. What are your thoughts on these differences?
3. Are there other trends that you see when drilling into the data that may be important for your department to explore (e.g., foster youth, individuals with disabilities, low income, veterans)?
4. Which additional student group did you choose to explore and why?
5. How do these trends align with your program's mission and goals?

The success rates of EACH student demographic group is flat-to-up- year-on- year. Mathematics continues to be a consistent barrier to increasing success rates beyond where they exist today. This is independent of specific student demographics- it applies to all. Many students are not fully prepared for the mathematical acumen required for energy management classes and careers. Veterans, Pacific Islanders, and Native Americans are showing strong success rates of (+17%, + 7% and +2% respectively). We also looked at female success rates: STEM careers among females are growing but not at fast enough a rate. Barriers to women in high technology careers are becoming less, but the lack of incoming female students majoring in, and pursuing careers in these fields is not what it could and should be. We would like to do a deep dive into why we are not seeing the faster pace growth we would like to see.

Teaching and Learning Strategies

1. What teaching and learning strategies might be helpful in narrowing any gaps in successful course completion?
2. How do the listed teaching and learning strategies align with your program's mission and goals?

We see building basic mathematic primers into our entry level classes as a way to improve mathematics proficiency as student's progress within the program. We continue to explore ways to offer more hands-on training and real life job experiences to go along with, and complement classroom learning. Encouraging faculty to explore culturally inclusive pedagogies and other empowerment strategies provided by the Office of Professional Development may also help narrow the equigaps.

Trends in Awards

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Degrees and Certificates by Ethnicity

Environmental Studies-DA

Who uses this report:

All users who need degree and certificate data.

What is this report:

This report provides the degree and certificate counts by college, division and department. Additionally, all users could explore degree and certificate awarded by ethnicity and gender.

Measures: Awards

Award Group	Ethnicity	2018-19	2019-20	2020-21	2021-22	2022-23
Associate in Arts	Asian	2		1	2	
	Black	1		1		2
	Filipinx	2			2	
	Latinx		3	3	1	3
	White	12	4	2	2	2
	Unknown ethnicity		1			
Total		17	8	7	7	7
Associate in Science	Asian	1		1		
	Filipinx	1			1	
	Latinx	3			2	3
	White	2	4	1	2	6
	Unknown ethnicity				1	1
Total		7	4	2	6	10
Credit Certificate-Transcriptable	Asian	7		6	1	5
	Black			1		1
	Filipinx	7		2	2	
	Latinx	13	10	9	8	13
	Pacific Islander					1
	White	33	10	8	10	12
	Unknown ethnicity		2		4	
Total		60	22	26	25	32
Total		84	34	35	38	49

In the data table above, what are the trends in regard to the number of awards within your program?

Trends in Associate Degrees awarded show:

- an increase in the number of Associate Degrees awarded
- a decrease in the number of Associate Degrees awarded
- no change in the number of Associate Degrees awarded
- Not applicable

Trends in Associate Degrees for Transfer awarded show;

- an increase in the number of Associate Degrees for Transfer awarded
- a decrease in the number of Associate Degrees for Transfer awarded
- no change in the number of Associate Degrees for Transfer awarded
- Not applicable

Trends in Credit Certificates awarded show:

- an increase in the number of Credit Certificates awarded
- a decrease in the number of Credit Certificates awarded
- no change in the number of Credit Certificates awarded
- Not applicable

Trends in Non Credit Certificates awarded show:

- an increase in the number of Noncredit Certificates awarded
- a decrease in the number of Noncredit Certificates awarded
- no change in the number of Noncredit Certificates awarded
- Not applicable

Reflecting on Trends in Awards

1. What trends do you see across awards in your department?
2. How do the trends in awards align with your program's mission and goals?

Trends in total AS Degrees awarded in all ethnic groups is UP. Trends in total Certificates awarded in all ethnic groups is FLAT

Reflecting on Award Offerings

1. For each program leading to an award, identify any courses that have not been offered in the last two years. Briefly explain why the courses have not been offered. For courses that will not be offered, how does your program plan to update the program so that students can complete the requirements?
2. Based on a review of course offerings and the number of awards offered and conferred, is your department planning on removing any degrees or certificates from the college catalog? If so, please list those being removed and a short explanation as to why.
3. Does your department have any plans to offer new degrees or certificates? If so, please list and provide a short explanation as to why.

All required courses are offered at least once each academic year. The department and programs are not planning on removing any degrees or certificates from the college catalog. All required courses can be taken 100% online at least once each academic year. We have asked Administration to add EMBS and FSBM AS degrees to the College catalog designating them as obtainable online, we are hoping this will attract more students as many are working adults who are trying to improve their wages and try and sustain their families in the Bay area with its extremely high cost of living. In fact the CTE programs in the ES department have been awarded a "Strong Workforce Star" by the State Chancellor's Office for two consecutive years for excellence in student outcomes (both in terms of securing a job and in increased earnings). The programs have consistently exceeded negotiated levels for Perkins Core Indicators being particularly strong with respect to Earned Postsecondary Credentials (with a perfect 100% performance indicator in 2023-24) and Non-Traditional Program Enrollment (42.4% above the negotiated level for 2023-24).

Staffing Trends

Faculty Workload

Faculty Workload						
Biol, Health, Env Sc, Wrkfr Ed - Environmental Studies-DA						
	2018-19	2019-20	2020-21	2021-22	2022-23	5-yr %Inc
Full Time Load	2.4	2.7	2.3	2.3	2.4	-1%
Full Time %	56.3%	56.1%	46.6%	56.8%	57.2%	2%
Overload	0.4	0.3	0.6	0.4	0.4	0%
Overload %	8.3%	7.2%	12.5%	9.4%	8.5%	3%
Part Time Load	1.5	1.8	2.0	1.4	1.4	-6%
Part Time %	35.4%	36.8%	40.9%	33.8%	34.3%	-3%
Total FTEF	4.3	4.8	5.0	4.0	4.2	-3%

What trends do you see in the last five years in regard to the Full Time %? (i.e., percentage of classes being taught by full time faculty, not including overload or summer)

- the data trend shows an increase in Full Time %
- the data trend shows a decrease in Full Time %
- the data trend shows no change in Full Time %

Staffing Needs

Provide a brief overview of your department's staffing needs. Personnel requests are to be submitted on a separate form.

1. What are full time faculty needs to ensure the program's health, growth or vitality?
2. What are classified staffing needs to ensure the program's health, growth or vitality?
3. What strategies does your program have in place to ensure students are being successful when faced with the current staffing ratios?
4. What strategies does your program have in place to retain new faculty, if applicable?

The ES Department consists of 2.4 Full time faculty, one faculty teaches in both ES and ESCI. The ESCI department has only one FT faculty who teaches part of their load in ES so for all intents and purposes ESCI has just over .5 FT faculty. There is a dire need to hire FT faculty in the ESCI department but based on our current courses offerings and projected enrollment the current faculty load in ES is sufficient to meet the needs of our students. We have excellent support from our classified staff and at this time are not looking to increase this. Staffing ratios at this time, bar any resignations or retirements, are adequate to support the students and their success in the programs.

Assessment Cycle

Student Learning Outcomes Assessment Cycle

Navigate to <https://www.deanza.edu/slo/#post> which will take you to an accordion listing of SLO assessments under "Student Learning Outcomes and Assessments Summaries by Division"

1. Summarize the dialogue that has resulted from SLO and/ or PLO assessments.
2. What specific strategies has your department implemented, or plan to implement, based on the results of the SLO/PLO assessments conducted?
3. How do these strategies align with the program's mission and goals.

After in depth conversations faculty have determined that many of our 1 unit classes contained too much information to reach student success levels at the desired rates. Students also gave feedback stating that the workload was too heavy for a 1 unit class. Students chose to drop the class or took a failing grade due to the workload vs. unit tradeoff. In addition, changes requested by our Advisory Committee have required more content be added to those classes. These changes needed to be addressed with regard unit level. In the last Curriculum cycle, EMBS faculty added content and increased the unit value of many of these classes to provide proper incentives for students to invest the time needed to be successful. This strategy strongly aligned with the program goals of increasing student success rates, the number of awards granted and increases in enrollment

Dean/Manager Comments

The Environmental Studies program at De Anza is an extremely robust program. Besides the many GE courses that are extremely popular as a science elective, the department also has 3 CTE programs - Energy Management Building Science (EMBS), Facility and Sustainable Building Management (FSBM) and Energy Resource Management and Pollution Prevention (ERMPP).

The programs facilitate student connections to employment opportunities after program completion. Faculty also promote graduates' career success among current students as a persistence and completion strategy. As an example, the EMBS program tracks student's post-college outcomes and maintains a webpage highlighting the employment of recent graduates.

De Anza College earned **Strong Workforce Stars** from the State Chancellors Office in recognition in the Energy, Construction & Utilities sector for its EMBS program as well as the ERMPP program. **100% of students who participate in these programs report securing a job in their field of study.**

The EMBS program has developed a partnership with the **International Facility Management Association - Silicon Valley chapter (IFMASV)** to create a multi-pronged experience for students including classroom instruction that integrates an Essentials of Facilities Management course into the program's existing curriculum; professional networking with IFMASV members through presentations, workplace tours, and membership in IFMASV; and links to internship and job opportunities with IFMASV member organizations. **Prior to the pandemic** the program offered its SunWork Renewable Energy Project internship program, which allowed participants to develop solar installation skills that make them immediately employable.

During the pandemic the department worked with the District ETS and Facilities Departments to create a Virtual Desktop Infrastructure. This provides students access to an FHDA Student Energy Database and Graphical Kirsch Center Energy Management System enabling a vast array of LIMITED and PROTECTED data from energy meters across the Foothill-De Anza District. Students can access the partitioned data remotely which has turned out to be a perfect and timely solution for conducting our energy management lab classes online. This has been very useful in terms of enrollment as most of our students are full time workers and part-time students looking to improve their employability and find jobs with livable wages.

Information available to students remotely through LIMITED and PROTECTED data includes

- Access to 64 energy meters across the Foothill and De Anza campuses
- Over 40 million records covering 2014 – present; over 500 million data items
- Data collection intervals ranging from 30 seconds to 15 minutes
- Data includes key electrical metrics voltage, amperage, power factor, kW power, kWh energy
- Data includes natural gas consumption
- Data includes key weather data including ambient temperature, wind speed, humidity, solar irradiance
- Data includes solar production power and energy
- Data includes chiller/boiler water flow rates, BTUs in and out, supply and return temperatures

New California state laws concerning **Clean Energy, Emission Reduction and Net Zero Energy Building** are guiding us to live more sustainable lifestyles – particularly in the built environment. Commercial and Residential buildings are required to be Zero Net Energy (ZNE) efficient, use more sustainable materials, reduce water, waste and pollution, and create more energy from renewable energy sources such as solar and wind to offset the energy they do consume. **Our CTE programs are preparing our students for these jobs of the future and our GE courses are helping to provide students in other majors to be prepared to advocate for the future health of our planet.**

STOP. Do not submit form. Please inform your dean/manager when the form is complete. They will submit the form when they have added their comments above.

This form is completed and ready for acceptance.