Division of Business, Computer Science and Applied Technologies (BCAT)

Overview:

The Division of Business, Computer Science, and Applied Technologies is comprised of six departments including Accounting, Automotive Technology, Business, Computer Information Systems, Design & Manufacturing Technologies, and Real Estate. Each program offers multiple degrees and certificates, and all were recognized for their contribution to the Career Technical Education Workforce and increasing living wages by the California Community Colleges' Star rating. This has been accomplished as a result of the faculty's dedication and vision of workforce demand, as well as their ability to create innovative curriculum relevant to advancements in their field and in collaboration with the departments' advisory boards.

Enrollment:

A. Business, Computer Science, Accounting, and Real Estate:

The Data shows a +10.5% change in enrollment increase over a 3-year period and a +7.4% change over 5 years. Please see Table 1.

Table1: *Three Year Enrollment Trend.*

Year	2018-19	2019-20	2020-21	3-Year Change
Business, CS, ACCT, and Real Estate	19266	19815	21292	10.5%
Accounting	4432	4537	4839	9.2%
Business	5715	5717	5591	-2.2%
Computer Information Systems	8710	9025	10027	15.1%
Real Estate	409	536	835	104.2%

The strategic move of the Division to negotiate with the California Department of Real Estate in order to change its long-standing rule of not accepting noncredit classes, to now **applying those classes** toward the educational requirements of the **California Real Estate Salesperson** and **Broker License** examinations, has significantly helped the enrollment of that department. The hike in enrollment in 2020-21 is the result of offering the noncredit Real Estate classes in Winter 2021. Moving forward, the program enrollment is expected to continue to significantly increase as a result of offering those noncredit classes. The Computer Science Department has also begun to incorporate noncredit courses in their curriculum which is already showing a positive impact.

B. Applied Technologies - Automotive Technology and Design and Manufacturing Technologies:

The Data shows a -20.3% change in enrollment over a 3-year period and a -17.8% change over 5 years. Please see Table 2.

Table 1. *Applied Technologies Enrollment.*

Year	2018-19	2019-20	2020-21	3-Year Change
Applied Technologies	3650	3382	2910	-20.3%
Automotive Technology	2120	2127	2035	-4.0%
Design and Manufacturing Technologies	1530	1255	875	-42.8%

The students in both programs learn primarily through a hands-on teaching approach. The closure of the campus during the pandemic and the department's inability to offer on-campus classes has significantly impacted the enrollment in both programs. While lectures were carried out online, many of the students opted not to attend and instead joined the workforce due to the high demand for professionals in both areas. The noncredit courses in Automotive Technology have played a significant role in minimizing the decline in enrollment for the department. This option was not available to Design and Manufacturing Technologies due to the college's rigid and lengthy curriculum approval process.

Degrees and Certificates Awarded by the Division:

Although the Division of Business, Computer Science, and Applied Technologies is not the largest division at De Anza, over the past 5 years, the division has awarded 35% of the college's total Associate Degrees, an average of 48% of the Associate Degree Transfer, and an average of 56% of the certificates offered by the college. See Tables 3 through 4.

Table 2: *Associate Degrees Awarded by the Division.*

Year	2016-17	2017-18	2018-19	2019-20	2020-21
De Anza's Total Associate Degree	2,118	2,174	2,174	1,930	2,389
BCAT	733	737	805	698	847
Percentage by BCAT	35%	34%	37%	36%	35%

Table 3: *Associate Degrees Transfer Awarded by the Division.*

Year	2016-17	2017-18	2018-19	2019-20	2020-21
Total Associate Degree Transfer by De Anza	579	729	793	870	1,201
BCAT	289	365	409	400	530
Percentage by BCAT	50%	50%	52%	46%	44%

Table 4: *Certificates Awarded by the Division.*

Year	2016-17	2017-18	2018-19	2019-20	2020-21
Total Certificates- De Anza	635	641	785	717	953
Total certificate- BCAT	396	359	484	383	443
Percentage by BCAT	62%	56%	62%	53%	46%

Equity:

Closing the equity gap has been an ongoing process for the Division. Various faculty have been experimenting with new assessment methods and sharing best practices in an effort to reduce the gap. While the Division's gap is below the College's gap, the goal is to reduce it to a single digit. The Applied Technology programs have done an excellent job keeping the gap to a single digit and closing it to ZERO in 2020-21 even with the challenges created by the pandemic. Tables 5 and 6 show the equity gaps combined and by program. Four of the six programs in the Division have closed the gap by 1%-8% in 2020-21 compared to 2019-20. Some of the factors contributing to closing the gaps include:

- Faculty diversity.
- Frequently updating the curriculum.
- The use of alternative assessments and sharing best practices.
- Flexible schedules and guiding students through career pathways by way of the creation of career pathway videos.
- Business and industry partnerships.
- Inviting guest speakers of diverse backgrounds.
- An effort to adopt zero-cost textbooks.
- Embedded and volunteer tutors.
- Faculty Mentor which is funded by Strong Workforce.
- Dual Enrollment which prepares incoming students to be more successful once they join the college.
- Initiating noncredit course offerings in some of the programs.

Table 5: *Equity Gaps.*

Year	2016-17	2017-18	2018-19	2019-20	2020-21
De Anza College	11%	12%	14%	13%	12%
Accounting, Business, Computer Science, and Real Estate	11%	11%	12%	12%	11%
Automotive and Design and Manufacturing Technologies	7%	6%	2%	3%	0%

Table 6: *Equity Gaps by Department.*

Year	2016-17	2017-18	2018-19	2019-20	2020-21
Automotive Technology	8%	9%	5%	8%	-1%
Design and Manufacturing Technologies	8%	6%	3%	2%	9%
Accounting	19%	19%	19%	18%	13%
Business	14%	16%	16%	16%	14%
Computer Science	11%	13%	16%	16%	15%
Real Estate	19%	6%	18%	12%	15%

While the programs have successfully narrowed the equity gap, there is more work to be done to reduce it to single digits, specifically in Accounting, Business, Computer Science, and Real Estate.

Outreach, Business, and Industry Relations:

The Division understands the importance of collaboration and partnerships with external stakeholders to create opportunities for our students, to close the equity gap, and to create opportunities for external funding for the College. Examples of the partnerships are:

1. Collaborating with Fremont Unified School District to create dual enrollment programs leading to certificates in various majors.
2. Partnership with NURO Autonomous Vehicles. This resulted in the creation of 2 new certificates and opened high-paid internships and job opportunities for the Automotive Technology students.
3. Partnership with Haas Manufacturing which has been significant in providing the department with the most recent state-of-the-art CNC machines and an annual student scholarship of approximately $30K.
4. Partnerships with Adobe Systems and Google which will open internship and job opportunities for students and encourage them to be successful.
5. Partnership with Intero Real Estate which created internship and job opportunities for students.
6. Partnership with the Big 4 accounting firms which has been a significant source for internships and job opportunities for the accounting students.

Financial Resources:

In prior years, the Division mainly depended on Strong Workforce Funds to meet its programs' financial demands. The competition for those funds has significantly increased, and, at the same time, without notice or consultation, the college has reduced the Division's B-Budget from approximately $100K to under $20K. The division requests the restoration of its B-Budget to meet its program's obligations.

Challenges and Requests:

The implementation of embedded counselors has not been fairly and equitably implemented across the college. For example, there are Divisions with half the enrollment of the BCAT division, yet they have embedded counselors and BCAT does not. While students in divisions with embedded counselors continue to work with the general counselors, the reduced number of general counselors has created an inequity for BCAT students. As a division, we would like to request one counselor in order to meet the needs of our programs and to help in narrowing the equity gaps.

Additionally, with the retirements of multiple long-time adjunct faculty in the area of Design and Manufacturing Technologies, the department is in desperate need of hiring an additional full-time faculty to lead in additive manufacturing and 3D printing.

In Computer Information Systems, the percentage of classes being taught by full-time instructors for 2021-22 was 30.9% or 82 classes. Considering that two CIS instructors are beginning Article 18 in 2020-21 and another is taking unpaid leave for 2022-23, 15 fewer

classes will be taught by full-time instructors bringing the percentage down to 25%, well below the College's average of 36.2%. Therefore, the department is requesting the hiring of one full-time faculty.

In the Business Department (BUS), The percentage of classes being taught by full-time instructors for 2021-22 was 31.5%%. Considering that two BUS instructors are beginning Article 18 in 2020-21, in 2022-23 fewer classes will be taught by full-time instructors bringing the percentage down below the College's average of 36.2%. Therefore, the department is requesting the hiring of one full-time faculty.

The return to campus implementation of the FMLA and ADA accommodations will increase the burden on those who are required to teach on campus and will put most of the extracurricular activities, committee work, etc. on the shoulders of those few faculty. Therefore, it is important that the College's faculty hiring practices change from awarding positions entirely based on retirement to including other factors to allow for innovation and to better serve our students.

Conclusion:

The Division has successfully maintained positive enrollment through 2020-21 regardless of the challenges imposed by the Pandemic. This is due to the hard work and dedication of the faculty and staff. The Division continues to offer most of the degrees and certificates awarded by the college.

Thank you.

Dr. Moaty Fayek

Dean of Business, Computer Science, and Applied Technologies