SECTION I: INTRODUCTION

Program Name
Chemistry

Academic Term of Comprehensive (Three-Year) Review
Fall 2025

Brief History of the Program
The Chemistry Department has been a part of the college since near its inception. The department currently, and historically, has three full-time faculty. Located in the 1800 building, the department has two labs that serve Introductory, General, and Organic Chemistry students as well as a chemical storeroom. In addition to the standard Chemistry Laboratory set-up, the department makes use of FTIR, NMR, GC-MS, and Spectrophotometers.

Alignment with Institutional Mission
The Chemistry department offers many transfer-level courses that form the foundation for further study in Chemistry or associated disciplines, including Biology, Geology, Physics, and Engineering. Introductory Chemistry is our most popular class as it serves as a prerequisite for many Health Occupation Programs, as well as serving as a general education class for “science with a lab”.

Taxonomy of Program

Program	Chemistry
Degree(s)/Certificate(s)	N/A
Courses	CHEM-110 – Introduction to Chemistry
	CHEM-111 – Introduction to Organic & Biological Chemistry
	CHEM-120 – General Chemistry 1
	CHEM-121 – General Chemistry 2
	CHEM-240 – Organic Chemistry 1
	CHEM-241 – Organic Chemistry 2

SECTION II: PROGRAM DATA

A.1 HEADCOUNT & ENROLLMENT

Headcount & Enrollment Data

Chemistry	2022-2023	2023-2024	2024-2025	Change over 3-Year Period
Headcount				
Program	**586**	**613**	**681**	**16.2%**
Institution	**6,161**	**6,588**	**7,034**	**14.2%**
Enrollment				
CHEM-110	451	486	525	16.4%
CHEM-111	15	25	29	93.3%
CHEM-120	137	125	149	8.8%
CHEM-121	73	74	69	-5.5%
CHEM-240	18	31	28	55.6%
CHEM-241	12	21	23	91.7%
Program	**706**	**762**	**823**	**16.6%**
Institution	**23,489**	**25,075**	**27,646**	**17.7%**
Source: SQL Queries for Fall 2025 Program Review				
Green shading denotes increases > 10%.				
Pink shading denotes decreases > 10%.				

Describe the trend in enrollment within the program over the past three years.
Enrollment has increased.

Relative Change in Headcount & Enrollment in the Past 3 Years

Summary Comparison	Three-Year Change	
	Headcount	Enrollment
Program	16.2%	16.6%
Institution	14.2%	17.7%

Relative Direction of Program Enrollment Trend
Program trend reflects the trend at the institutional level.

Relative Magnitude of Program Enrollment Trend
Change at the program level exceeds the change at the institutional level.

Describe the factors that contributed to the recent enrollment trend within the program.
Two factors have led to an increase in enrollment. First, a third full-time faculty member was hired for the 2024-2025 academic year. This allowed more course offerings and better continuity throughout the program. Second, due to high enrollment in Chem 110 (Intro Chem), we were allowed to offer two additional sections.
Overall, the demand for in-person classes like Chemistry has increased in recent semesters, which has resulted in much higher demand for our classes.

Do the trends in headcount and enrollment suggest that changes are necessary to improve enrollment within the program?
No

Program (Sciences & Engineering) - Chemistry: Program Review

A.2 AVERAGE SECTION SIZE

Average Section Size Data

Chemistry	2022-2023		2023-2024		2024-2025		Three-Year	
	Sections	Average Size	Sections	Average Size	Sections	Average Size	Average Section Size	Trend
CHEM-110	18	25.1	18	27.0	20	26.3	26.1	4.8%
CHEM-111	1	15.0	1	25.0	2	14.5	17.3	-3.3%
CHEM-120	6	22.8	5	25.0	5	29.8	25.7	30.7%
CHEM-121	3	24.3	3	24.7	3	23.0	24.0	-5.3%
CHEM-240	1	18.0	1	31.0	2	14.0	19.3	-22.2%
CHEM-241	1	12.0	1	21.0	1	23.0	18.7	91.7%
Program	**30**	**23.5**	**29**	**26.3**	**33**	**24.9**	**24.9**	**6.0%**
Institution	**1,010**	**23.3**	**1,045**	**24.0**	**1,055**	**26.2**	**24.5**	**12.4%**
Sources: SQL Queries for Fall 2025 Program Review for enrollment data, Enrollment Management Division Reports and Concurrent Courses Reports for course-section data.								
Green shading denotes increases > 10%.								
Pink shading denotes decreases > 10%.								

Describe the trend in average section size within the program over the past three years.
Average section size has increased.

Relative Change in Average Section Size in the Past 3 Years

Summary Comparison	Three-Year	
	Average	Change
Program	24.9	6.0%
Institution	24.5	12.4%

Relative Average Section Size Trend
Program average exceeds the institutional average.

Relative Change in Average Section Size
Change at the institutional level exceeds the change at the program level.

Describe the factors that contributed to the recent trend in average section size within the program.
Increased demand for in-person and hybrid Chemistry classes has increased enrollment. The number of students per class has increased to accommodate this trend.

Do the trends suggest that changes are necessary to increase average section size?
No

A.3 FILL RATE & PRODUCTIVITY

Fill Rate Data

Chemistry	2022-2023	2023-2024	2024-2025	Three-Year Change	Three-Year Totals
Fill Rate					
Program					
Enrollments	706	762	823	16.6%	2,291
Capacity	750	725	825	10.0%	2,300
Fill Rate	94.1%	105%	99.8%	5.7%	99.6%
Institution					
Enrollments	23,489	25,075	27,646	17.7%	76,210
Capacity	31,749	32,279	32,984	3.9%	97,012
Fill Rate	74.0%	77.7%	83.8%	9.8%	78.6%
Source: SQL Queries for Fall 2025 Program Review					

Compare program-level fill rate with institution-level fill rate over the past three years.
Program fill rates have consistently exceeded institutional fill rates.

Productivity Data

Chemistry	2022-2023	2023-2024	2024-2025	Three-Year Change	Three-Year Totals
Productivity					
Program					
FTES	155.6	158.9	202.1	29.9%	516.6
FTEF	10.8	10.4	12.1	12.0%	33.3
Productivity	14.4	15.3	16.7	16.0%	15.5
Institution					
FTES	3,017.0	3,163.5	3,393.8	12.5%	9,574.3
FTEF	293.8	288.1	294.5	0.2%	876.4
Productivity	10.3	11.0	11.5	12.2%	10.9
Source: SQL Server Reporting Services – Term to Term Enrollment FTES Load Comparison Report (by Credit Course)					

Relative Change in Productivity in the Past 3 Years

Summary Comparison	Three-Year Rate		Three-Year Change	
	Fill Rate	Productivity	Fill Rate	Productivity
Program	99.6%	15.5	5.7%	16.0%
Institution	78.6%	10.9	9.8%	12.2%

Compare program-level productivity with institution-level productivity over the past three years.
Program productivity has consistently exceeded institutional productivity.

Describe the factors that contributed to recent trends in fill rate and productivity within the program.
Increased demand for in-person and hybrid Chemistry classes has increased enrollment. The number of students per class has increased to accommodate this trend.

Do the trends suggest that changes are necessary to increase fill rate or/and productivity?
No

Program (Sciences & Engineering) - Chemistry: Program Review

B.1 RETENTION & SUCCESSFUL COURSE COMPLETION

Retention & Course Completion Data

Summary Comparison	Program	Comparison	Institution
Retention Rate	92.2%	≈	91.8%
Successful Course Completion Rate	***62.7%***	<	73.5%
Difference	29.5%	>	***18.3%***

Reflect on the summary comparison of retention, successful course completion, and the difference between the two at the program level vs. the institution level. Do the program-level figures suggest that changes are necessary?

No

Describe the proposed actions that the program will take based on the summary course retention and completion data.

The Retention rates are in line with the Institution.
The Summary of the Successful Course Completion Rate needs to be broken down by course for this metric to have any meaning. Please see below.

Course-Level Retention & Completion Data

Chemistry	Retention Rate			Successful Course Completion Rate			Difference (Retention Minus Successful Course Completion)
Course	Rate	Course vs. Program Rate		Rate	Course vs. Program Rate		
		Higher	Lower		Higher	Lower	
CHEM-110	92.4%	--	--	56.2%		X	36.2%
CHEM-111	89.9%		X	76.8%	X		13.1%
CHEM-120	91.2%	--	--	68.3%	X		22.9%
CHEM-121	93.3%	X		80.0%	X		13.3%
CHEM-240	88.2%		X	72.4%	X		15.8%
CHEM-241	100%	X		96.4%	X		3.6%
Program	92.2%			***62.7%***			29.5%
Institution	91.8%			73.5%			***18.3%***

Source: SQL Queries for Fall 2025 Program Review
*Indicates that data are suppressed due to low N (< 10).
-- Indicates a value that is within 1% of the program-level rate.
Bold italics denote a statistically significant difference between the program-level rate and the institutional rate. The lower of the two rates is highlighted in ***bold italics***.

Green shading highlights courses with retention and successful course completion rates higher than the corresponding program-level rate and a difference between retention and successful course completion that is smaller than the difference at the program level.

Pink shading highlights courses with retention and successful course completion rates lower than the corresponding program-level rate and a difference between retention and successful course completion that is larger than the difference at the program level.

Reflect on the course-level data provided in the table containing detailed program data. Do the course-level retention rates, successful course completion rates, or the differences between the two suggest that changes are necessary?

No

Describe the proposed actions that the program will take based on the course-level retention and completion data.

The Successful Course Completion Rate over the last 3 years falls below the institutional average and is also lower than past review cycles. If we exclude Chem 110, the completion rate varies between 68-96%, all within fairly normal success rates for Chemistry. The outlier this cycle is Chem 110 with a success rate of 56.2%. This is well below past completion rates for the course, but is in line with an overall trend of falling scores in Chem 110. SLOs

have also seen a decrease in success at the same time. Based on both the timing and the types of struggles our students have had, this is a consequence of removing the previous math pre-requisite of Intermediate Algebra. Students can enroll in Chem 110 using Statistics or a high enough high-school GPA.
To combat this ongoing issue, the Chemistry department is looking to partner with the Math Success Center, dedicating a portion of its space and resources to helping Chem 110 students. As previously mentioned, most of the current issues facing our students stem from a lack of preparedness in Math. Creating a space for students to routinely and reliably get assistance in both chemistry and math should have an overall positive effect on success rates in these classes.

B.2. STUDENT EQUITY

Comparison of Retention and Successful Course Completion Rates Among Demographic Groups

Chemistry	Demographic Group	Program	Comparison	Institution
Retention Rate	Ages 25 to 29	92.5%	>	89.7%
	African American/Black	86.3%	<	89.5%
	Native American	*		86.0%
Successful Course Completion Rate	Ages 19 or Younger	***61.5%***	<	71.9%
	African American/Black	***46.6%***	<	65.2%
	Latinx/Hispanic	***57.8%***	<	70.4%
	Native American	*		64.3%
	First-Generation	***55.7%***	<	67.9%

Source: SQL Queries for Fall 2025 Program Review

Bold italics denote a statistically significant difference between rates at the program and institutional levels, with the lower of the two rates in ***bold italics***.
*Indicates that are suppressed due to low N (< 10).

Reflect on the comparison of retention and successful course completion rates among demographic groups at the program level vs. the institution level. Identify any areas of concern.
The retention rates by demographic groups are in line with the Institution.
The Successful Course completion rate falls well below the institutional average. Most of this can be attributed to the previously discussed success rate for Chem 110 being well below the instructional average. As Chem 110 is the class we offer the most, its low success rate pulls down the success rate for every group. The only one that stands out from the average is the African American/Black demographic group which is 10% lower. This is an area of concern.

Do the program-level figures on course retention and completion suggest that changes are necessary?
Yes

Describe proposed actions the program will take around student equity.
As previously mentioned, there is a shortfall in the level of preparedness for the math necessary to be successful in Chemistry. This affects all demographics but can be more acutely felt in certain groups that are underrepresented on campus. In addition to this, a lack of on-campus community has made finding resources often difficult. To combat this ongoing issue, the Chemistry department is looking to partner with the Math Success Center, dedicating a portion of its space and resources to helping Chem 110 students. As previously mentioned, most of the current issues facing our students stem from a lack of preparedness in Math. Creating a space for students to routinely and reliably get assistance in both chemistry and math should have an overall positive effect on success rates in these classes.
Programs such as MESA and UMOJA often help students form a community and better understand the institution as a whole. The Chemistry department will endeavor to form closer ties with these programs to not only form an early dialogue but also provide and offer resources for student success.

B.3 DELIVERY MODE

Comparison of Retention and Successful Course Completion Rates by Delivery Mode

Chemistry			
Retention & Successful Course Completion by Delivery Mode			
	In-Person	Comparison	Hybrid
Retention Rate	90.0%	<	92.2%
Successful Course Completion Rate	***52.7%***	<	71.9%
Source: SQL Queries for Fall 2025 Program Review This table compares student performance in courses offered through multiple delivery modes within the same academic year. ***Bold italics*** denote a significantly lower rate within that delivery mode.			

Courses Included in Analysis by Delivery Mode

Courses Included in Analysis by Delivery Mode	
Comparison	Course(s) and Academic Year(s)
In-Person vs. Hybrid	○ CHEM-110, CHEM-120, CHEM-121 in 2022-2023 ○ CHEM-110, CHEM-120, CHEM-121 in 2023-2024 ○ CHEM-110, CHEM-120, CHEM-121 in 2024-2025

Reflect on the comparison of retention and successful course completion rates by course delivery mode. Identify any areas of concern.

While it would appear that students do much better with Hybrid, much of this can be attributed to which classes are taught hybrid vs. all in-person. Chem 110, our class with the lowest success rate going back many years, is taught primarily in person with a few hybrid options. On the other hand, most of our upper-level classes are taught in hyflex/hybrid. Historically, these classes have always had much higher pass rates, even before they were hybrid. That said, we do try to offer a variety of options for students so they can find the modality that works best for them.

Do the differences between retention or/and successful course completion among different delivery modes suggest that changes are necessary?

No

Describe proposed actions the program will take around course delivery mode.

The chosen delivery mode for each course is determined by the instructor with some preferring all in-person and others preferring hybrid or hyflex. This will continue to be left up to the instructor as students can self-select into which type of class they want to take.

C.1 PROGRAM COMPLETION

C.2 JOB PLACEMENT RATES

C.3 LICENSURE EXAM PASSAGE RATES

SECTION III: CURRICULUM

Courses Table

Subject	Course Number	Date of Last Review & Approval by Curriculum Committee	Reason for Last Review	Has Prerequisite/ Corequisite * *Yes/No* & Date of Last Review	Last Term with Enrollments	In Need of Revision *Indicate Non-Substantive (NS) or Substantive (S)* & Academic Year Anticipated	To Be Archived *(as Obsolete, Outdated, or Irrelevant)* & Academic Year Anticipated	No Change
CHEM	110	02/7/25	Common Course numbering alignment	Yes 2/7/25	SU/25	(NS) 2026		
CHEM	111	In process	Updating textbook and Laboratory Manual	Yes In Process	SP/25			No change

CHEM	120	0000 9/20/19	Change Pre-requisites and update textbook	Yes 2019	SP/25	(NS) 2026		
CHEM	121	0000 9/11/14 (BOT)	C-ID Requirement	Yes 2014	SU/25	(NS) 2026		
CHEM	240	2/27/23 3/17/23	Aligning with state standards for TMC and C-ID	Yes 2014	FA/24			No change
CHEM	241	2/27/23 3/17/23	Aligning with state standards for TMC and C-ID	Yes 2014	SP/25			No change

Describe the alignment between the Program Map(s) and the NVC Catalog.
Program faculty have reviewed all program map(s) pertaining to the program and have confirmed alignment between the map(s) and the information in the current NVC Catalog.

Describe the factors that contributed to the consistency/discrepancy identified in the two sources.
There have been no significant changes in our program relating to transfer pathways. Thanks to Katherine Lebe for keeping our catalogue up to date.

Do the findings from the review of information indicate that changes are necessary to ensure consistency across sources?
No

D. ALIGNMENT BETWEEN COURSE SCHEDULING & CATALOG

Describe the alignment between recent course offerings and program requirements.
Program faculty have reviewed recent course offerings against requirements for all degrees/certificates conferred by the program and have confirmed that students have been given opportunity to complete requirements within the period of time reported.

Describe the factors that contributed to ensuring that courses are offered according to schedule (or not offering them according to schedule).
We offer almost all courses every semester. The only exception is Chem 240/241 which are each offered once a year; this is due to low enrollment and its sequential nature.

Do the findings from the review of course offerings indicate that changes are necessary to ensure that students can complete program requirements within the period of time reported in the Catalog?
No

SECTION IV: LEARNING OUTCOMES ASSESSMENT

LEARNING OUTCOMES STATEMENTS

Program Learning Outcomes Statements from Current Catalog

Program/ Degree/ Certificate	Learning Outcomes Statement(s) as Presented in Current NVC Catalog
Chemistry	1. Describe chemical and physical processes at the molecular level and how they relate to the macroscopic environment. 2. Solve both qualitative and quantitative chemistry problems while demonstrating the reasoning clearly and completely. 3. Implement laboratory techniques correctly using appropriate safety procedures and express them clearly in written laboratory reports.

A. ALIGNMENT OF OUTCOMES STATEMENTS ACROSS A VARIETY OF SOURCES

Program faculty have reviewed all program-level outcomes statements (including those associated with each degree or/and certificate offered) recorded in these.

Nuventive
Program Map(s)

Were any discrepancies between outcomes statements across the locations identified?

No

B. STATUS OF LEARNING OUTCOMES ASSESSMENT

B.1 Course Level

Chemistry	Number of Courses with Outcomes Assessed		Proportion of Courses with Outcomes Assessed	
Number of Courses	Over Last 4 Years	Over Last 6 Years	Over Last 4 Years	Over Last 6 Years
6	6	6	100%	100%

B.2 Program/Degree/Certificate Level

Degree/ Certificate	Number of Outcomes*	Number of Outcomes Assessed		Proportion of Outcomes Assessed	
		Over Last 4 Years	Over Last 6 Years	Over Last 4 Years	Over Last 6 Years
	3	0	0	0%	0%

Are any changes necessary to ensure regular, ongoing assessment of student learning outcomes?

No

C. FINDINGS FROM LEARNING OUTCOMES ASSESSMENT

Summary of recent assessment findings

Our SLO assessment mirrors what we've already seen in Student Success Rate: Chem 110 routinely has poor outcomes, scoring less than our 65% threshold for SLO 1 and SLO 2 (reflected in PLO 1 and PLO 2, respectively). On the other hand, every other course shows success in each SLO.
As mentioned previously, Chem 110 is our only course without a true pre-requisite. This results in a large portion of the students being unprepared for both the math and rigor of the class.

Are any changes necessary to ensure follow-up on outcomes assessment findings or/and completion of action plans recorded in Nuventive?

No

SECTION V: LAST THREE-YEAR PROGRAM-LEVEL PLAN

Components of the Last Three-Year Program-Level Plan

Status of Program-Level Plan from Last Program Review		
Components of Program-Level Plan from Last Program Review	**Description of Implementation to Date**	**Description of Status**
New FT Chemistry Instructor	Our 3rd hire was completed for the Fall 2024 semester.	Our third hire, Nathan Yoshino, continues to thrive in the program.
New Facility/Larger and Additional Lab space	No progress or status update	No progress or status update

Chemistry/STEM HS Summit	This plan was spearheaded by the now retired faculty member Steven Fawl and not retired Dean Bob Van Der Velde. There is no plan to move forward.	No progress or status update

Will any components of the last program plan be carried over into the plan that results from the current review process?

Yes

SECTION VI. PROGRAM PLAN (FOR THE FUTURE)

Program Plan

Program Plan for the Future					
Program	**Program-Level Initiative**	**Initiative/ Component #**	**Alignment with EMP/Other Plans**	**Anticipated Year of Implementation**	**Anticipated Outcome of Initiative**
Chem	ZCT	1	Retention Equity	2025	2027
Chem	New Facility/Larger and Additional Lab space	2	Transfer Readiness Career Readiness	2027	2032
Chem	Coordination with Math Success Center for Chem dedicated space	3	Retention Equity	2026	2027
Chem	Advanced Chemistry Equipment training and acquisition	4	Transfer Readiness Career Readiness	2025	2026
Chem	Laboratory and Lecture Technology Integration	5	Retention	2026	2027

SECTION VII. RESOURCE NEEDS (FOR THE FUTURE)

Resource Needs

Resources Needed to Implement Program Plan		
Initiative/ Component #	**Resource Type**	**Resource Description**
1	Professional Development	Funds to pay faculty to develop OER material for Chemistry courses
2	Infrastructure Bond	Funds to finance a new building for laboratory instruction
3	Personnel	Funds to pay for student tutors in the MSC who can specialize in Chemistry
4	Professional Development	Funds to pay for training for a Gas Chromatography Mass Spectrometer.
5	Equipment	Funds to projectors in lab and updated technology in lecture rooms.

SECTION VIII. OVERVIEW

A.1 Assessment of State of the Program

Stability

A.2 Rationale for the State of the Program Selected

The Chemistry Department has shown stable or increased enrollment over the last three years, with high retention throughout the program. The department has recently recruited a full-time Organic Chemistry Instructor to take charge of the Biochemistry and Organic sequence. There is room for growth if scheduling guidelines were to change from OAA.

Program (Sciences & Engineering) - Chemistry: Program Review

B.1 Major Findings: STRENGTHS

- Chemistry has shown consistent enrollment and retention over the last 3 years
- Chemistry has been involved in many outreach programs to stimulate interest in chemistry and STEM.
- Chemistry has started the migration over to ZCT materials, including the development of new online and free education resources
- Chemistry is able to offer classes over a variety of teaching modalities, including Hybrid and Hyflex.
- The curriculum is current and up to date.

B.2 Major Findings: AREAS FOR IMPROVEMENT

- Completion rates and SLO in our class without pre-reqs (Chem 110s) are lower than the institutional average.
- Equity analysis shows that the successful completion rate for African Americans students is lower than the institutional average and the department average.

C. Describe the great work the program has been doing the past three years, including effective and innovative practices to improve the student experience, success, learning, and achievement.

-Chemistry has hired an excellent full-time faculty member to head the Biochemistry and Organic Chemistry courses.
-Chemistry has begun migrating to ZCT material, starting with the most offered courses.
-Chemistry now provides and sanitizes goggles and lab coats for students instead of requiring them to purchase their own.
-Chemistry has revamped the waste collection process.
-Chemistry offers classes over a variety of teaching modalities, including Hybrid and Hyflex. This also includes offering evening classes taught by both full-time and part-time faculty.
-Chemistry has worked closely with MESA's summer bridge program to help bring first-generation, Hispanic, and African American junior and senior high school students to the campus.
-Members of the department worked with the Chemistry Club, allowing students to host chemistry-related experiments and outreach. This also included a field trip to the American Chemical Society Annual Conference in San Diego.

D. New Objectives/Goals

-The best way to increase productivity in chemistry is by creating larger, modern labs. This will require a significant investment by the college, but will have the added benefit of having an improved facility and ability to attract new students and as a showcase for the community.
-Continue the migration over to ZCT materials for both lecture and laboratory materials.
-Revamping the labs to microscale to produce less waste and use fewer materials.
-Incorporate Gas Chromatography Mass Spectrometer use and analysis into the Chem 240 and 241 laboratory curriculum.

E. List of Individuals Who Contributed to the Report/Participated in Process

Joshua Hanson
Chris Farmer
Nathan Yoshino
Forest Quinlan

ADMINISTRATIVE FEEDBACK

Supervising Administrator

Christopher Farmer

Strengths and successes of the program, as evidenced by analysis of data, outcomes assessment, and curriculum.

The program review clearly demonstrates that Chemistry is a strong and stable program that continues to serve as a critical gateway to STEM and allied health pathways. Enrollment and section size have increased over the past three years, reflecting strong student demand for in-person and hybrid chemistry courses, and program fill rates have consistently exceeded institutional levels.

The department has also continued to modernize curriculum, maintain current C-ID alignment, and expand access through multiple instructional modalities, including hybrid and HyFlex options. Innovative practices such as

improved lab safety protocols, zero-cost textbook initiatives, sanitation of goggles and lab coats, outreach with MESA, and support of the Chemistry Club demonstrate a strong culture of student engagement and continuous improvement.

It is also commendable that the faculty provided a direct and transparent evaluation of student outcomes, particularly in identifying course-level differences in successful completion rates and SLO performance. This level of self-assessment reflects a strong commitment to student achievement.

Areas of concern, if any

The primary challenge identified is the lower successful course completion rate in CHEM 110, which has fallen below the institutional average over the past three years. The program insightfully attributes much of this decline to changes in math readiness and the loss of the Intermediate Algebra prerequisite.

Additionally, equity analysis indicates that African American/Black students experience lower completion outcomes in Chemistry relative to institutional averages. Addressing this gap is an important and shared priority.

Recommendations for improvement

The program has already outlined appropriate next steps, and I support the direction presented, including:

• Partnering with the Math Success Center to provide dedicated support for CHEM 110 students
• Continuing migration to zero-cost course materials to reduce student barriers
• Enhancing coordination with MESA, Umoja, and other student-support programs to strengthen community and belonging
• Monitoring CHEM 110 outcomes term-to-term to evaluate the effectiveness of implemented support strategies
• Ongoing attention to modality-based success trends to ensure equitable access to successful learning environments

These actions are informed by data and student experience and are well aligned to institutional priorities.

Additional information regarding resources

The review identifies both near-term operational needs and longer-range facilities goals. Immediate resource needs include:

• Equipment and technology updates in laboratory and lecture spaces
• Support for student tutors focused on Chemistry within the Math Success Center
• Targeted professional development supporting equipment use and instructional innovation

Longer-term planning for expanded and modernized science lab capacity is noted as a future goal. While it is understood that a new building is not currently feasible, continued progress on facility planning is appropriate to ensure alignment with future STEM enrollment demand and instructional standards.