



AAQEP Annual Report for 2023

Provider/Program Name: University of Missouri-St. Louis

End Date of Current AAQEP Accreditation Term: June 2028

PART I: Publicly Available Program Performance and Candidate Achievement Data

1. Overview and Context

This overview describes the mission and context of the educator preparation provider and the programs included in its AAQEP review.

The University of Missouri-St. Louis College of Education's mission is to advance educational knowledge and practice, partner with communities, and promote diversity, equity, and excellence. To further this mission, we develop original programs and practices, promote creative solutions for educational community and mental health settings, and nurture diverse leaders, practitioners, and researchers in service to the critical demands of local, national, and global communities. We aim to extend the boundaries of our learning community to ensure that we and our partners learn from each other. We are dedicated to excellence and the inherent value of every learner.

With more than 15,000 students, the University of Missouri-St. Louis, established in 1963, is the St. Louis region's premier public research university. In fall 2023, the university celebrated its 60th anniversary. The College of Education (COE) has 41 full-time faculty members within the university. It offers six undergraduate degrees, 32 undergraduate and post-baccalaureate teaching certificates, nine master's degrees, many graduate certificate programs, two educational specialist degrees, and two doctoral degrees. These programs prepare and sustain culturally competent, dedicated, and highly trained teachers for a variety of traditional and non-traditional educational settings. The college also prepares administrators, counselors, school psychologists,

behavior analysts, educational scholars, and entrepreneurs. The COE houses two departments: Educator Preparation and Leadership and Education Sciences and Professional Programs. Student support is provided through the Office of Advising and Student Services. Overseen by the Office of Clinical Experience and Partnerships, our Studio School model, which has an established partnership between 30 local schools and the COE, allows for collaborative practicum experiences that enrich future teachers' learning. By partnering with a vast array of educational, business, and community resources, the college provides opportunities for faculty and students to develop professional connections that will improve their careers as well as their communities.

Public Posting URL

Part I of this report is posted at the following web address (accredited members filing this report must post at least Part I):

<https://www.umsl.edu/education/about/aaqep-report.html>

2. Enrollment and Completion Data

Table 1. Program Specification: Enrollment and Completers for Academic Year 2022-2023 (Programs that Lead to Initial Credentials)

Degree or Certificate granted by the institution or organization	State Certificate, License, Endorsement, or Other Credential	Number of Candidates enrolled in most recently completed academic year (2022-2023)	Number of Completers in most recently completed academic year (2022-2023) <i>(number not included in candidates enrolled)</i>
<i>Undergraduate Level</i>			
BSED - Early Childhood Education, <i>Early Childhood Special Education Emphasis</i>	Early Childhood Education B-3	56	5
BSED - Elementary Education, <i>Special Ed, TESOL, or Special Ed & TESOL Emphasis</i>	Elementary Education 1-6	173	66

BSED - Elementary Education, <i>Middle School Emphasis</i>	Language Arts 5-9	4	1
	Mathematics 5-9	17	2
	Science 5-9	9	3
	Social Science 5-9	7	2
BSED - Physical Education	Physical Education K-12	29	5
BSED - Secondary Education	Biology 9-12	6	0
	Chemistry 9-12	5	0
	Physics 9-12	0	0
	English 9-12	29	12
	Mathematics 9-12	7	0
	Social Science 9-12	41	7
	French K-12	0	0
	Spanish K-12	4	2
BFA - Studio Arts FAC, <i>Art Education Emphasis</i>	Art Education K-12	29	6
BM - FAC Music, <i>Music Education Emphasis</i>	Instrumental Music K-12	12	0
	Vocal Music K-12	18	3
Graduate Level - Teach Residency (TR), Teach for America (TFA)			
MED - Elementary Education, <i>Early Childhood Emphasis; Education, Interdisciplinary Studies Teach Res</i>	Early Childhood Education B-3 (TR, TFA)	34	3

MED - Elementary Education, <i>General Emphasis; Education, Interdisciplinary Studies for Teach Residency</i>	Elementary Education 1-6 (TR, TFA)	59	9
MED - Secondary Education, <i>Middle School; Education, Interdisciplinary Studies for Teach Residency</i>	Language Arts 5-9 (TR, TFA)	9	5
	Mathematics 5-9 (TR, TFA)	5	3
	Science 5-9 (TR, TFA)	6	1
	Social Science 5-9 (TR, TFA)	8	2
MED - Secondary Education, <i>General Emphasis; Education, Interdisciplinary Studies for Teach Residency</i>	Biology 9-12 (TR, TFA)	4	1
	Chemistry 9-12 (TR, TFA)	1	1
	Physics 9-12 (TR, TFA)	0	1
	English 9-12 (TR, TFA)	7	3
	Mathematics 9-12 (TR, TFA)	3	0
	Social Science 9-12 (TR, TFA)	7	3
	French K-12 (TR, TFA)	0	1
	Spanish K-12 (TR, TFA)	5	3
	Earth Science 9-12 (TR, TFA)	1	0
MED - Special Education	Mild-Mod Cross-Categorical K-12 (TR, TFA)	9	3
Graduate Level - Teach in 12 (Tin12)			

MED - Elementary Education, <i>Elementary Teacher Cert Emphasis; General Emphasis</i> ; Elem School Teacher Grad Cert; Elem & Spec Ed Teacher Cert	Elementary Education 1-6 (Tin12)	29	27
MED - Secondary Education, <i>Teacher Cert Emphasis; General Emphasis</i> ; Secondary School Teaching Grad Cert; Graduate Teacher Certification	Art Education K-12 (Tin12)	4	3
	Biology 9-12 (Tin12)	5	3
	Chemistry 9-12 (Tin12)	0	2
	English 9-12 (Tin12)	13	1
	French K-12 (tin12)	0	0
	Instrumental Music K-12 (Tin12)	0	0
	Mathematics 9-12 (Tin12)	3	2
	Physical Education K-12 (Tin12)	2	1
	Physics 9-12 (Tin12)	0	0
	Social Science 9-12 (Tin12)	20	5
	Spanish K-12 (Tin12)	2	0
Vocal Music K-12 (Tin12)	0	0	

Total for programs that lead to initial credentials		682*	197*
<i>Programs that lead to additional or advanced credentials for already-licensed educators</i>			
<i>Not applicable to this report.</i>			
Total for programs that lead to additional/advanced credentials		NA	NA
<i>Programs that lead to credentials for other school professionals or to no specific credential</i>			
<i>Not applicable to this report.</i>			
Total for additional programs		NA	NA
TOTAL enrollment and productivity for all programs		682	197
Unduplicated total of all program candidates and completers		682	197

Table 1 shows current enrollment and recent completion data for each program included in the AAQEP review.

Table 1. Program Specification: Enrollment and Completers for Academic Year 2022-2023

Degree or Certificate granted by the institution or organization State Certificate, License, Endorsement, or Other Credential	Number of Candidates enrolled in most recently completed academic year (12 months ending 08/23)	Number of Completers in most recently completed academic year (12 months ending 08/23)
<i>Programs that lead to initial teaching credentials</i>		
Total for programs that lead to initial credentials	682	197
<i>Programs that lead to additional or advanced credentials for already-licensed educators</i>		
Total for programs that lead to additional/advanced credentials	NA	NA
<i>Programs that lead to credentials for other school professionals or to no specific credential</i>		
Total for additional programs TOTAL enrollment and productivity for all programs Unduplicated total of all program candidates and completers	 682 682*	 197 197*

*Enrollment and completer totals are the numbers reported to Title II and MO DESE. Completers are not included in the program candidate enrollment total.

Added or Discontinued Programs

Any programs within the AAQEP review that have been added or discontinued within the past year are listed below. (This list is required only from providers with accredited programs.)

None.

3. Program Performance Indicators

The program performance information in Table 2 applies to the academic year indicated in Table 1.

Table 2. Program Performance Indicators

A. Total enrollment in the educator preparation programs is shown in Table 1. This figure is an unduplicated count, i.e., individuals earning more than one credential may be counted in more than one line above but only once here.
682
B. Total number of unique completers (across all programs) included in Table 1. This figure is an unduplicated count, i.e., individuals who earned more than one credential may be counted in more than one line above but only once here.
197
C. Number of recommendations for certificate, license, or endorsement included in Table 1.
197
D. Cohort completion rates for candidates who completed the various programs within their respective program's expected timeframe and in 1.5 times the expected timeframe.
The table below provides some insight into the completion rates for our undergraduate degree programs. The courses for our undergraduate certification areas can be found within the four BSED degrees, the Music FAC BM degree, and the Studio Art BAC degree. The enrollment numbers provided (<i>N</i>) are first-time, full-time, degree-seeking freshmen and transfer students from Fall Semester (FS) 2014 through Fall Semester (FS) 2023. This year we are adding another column with the number of transfers that

make up the total. This is to highlight the high percentage of transfer students in our student population. The figures shaded in blue represent a change from last year's table, most likely due to drops or transfers into or out of the program.

Only undergraduate rates are provided here. We cannot calculate graduate initial certification completer rates at this time due to the difficulty in determining which students are completing certification requirements and which students are non-certification students completing graduate programs. We hope to devise a system to calculate these rates in the future.

Completion. Graduation rate data show the average time for degree completion (2015-2017) for Early Childhood is 3.0 years; Elementary Ed is 2.9 years; Physical Ed is 3.2 years; Secondary Ed is 3.2 years; Music is 3.7 years; and Art is 2.9 years (2015 & 2017).

From 2014-2020, average graduation rates for completion within **three** years for Early Childhood are 33%; Elementary Ed 64%; Physical Ed 52%; Secondary Ed 49%; Music 41%; and Art 59%. From 2014-2019, average rates within **four** years for Early Childhood are 43%; Elementary Ed are 75%; Physical Ed 52%; Secondary Ed 59%; Music 52%; and Art 69%. From 2014-2018, average rates within **five** years for Early Childhood are 39%; Elementary Ed 78%; Physical Ed 61%; Secondary Ed 65%; Music 63%; and Art 58%. From 2014-2017, average rates within **six** years for Early Childhood are 39%; Elementary Ed 82%; Physical Ed 51%; Secondary Ed 66%; Music 64%; and Art 63% (2015-2017).

Enrollment and Retention. Early Childhood, Elementary, and Music show a drop in enrollment between Fall 2019 and Fall 2020, most likely due to the pandemic, whereas PE, Secondary Ed, and Art show an increase. Elementary and Music slowly regained enrollment between 2021-23 while Art dropped a bit. Early Childhood and Secondary Ed show a significant rise in enrollment in 2022-2023 while PE shows a similar rise in 2023.

Due to our increased retention efforts, we are encouraged to see that our program with the largest enrollment of new students in Fall 2022 (Elementary, N=43) has a 98% retention rate in the following Winter/Spring semester and a 93% retention rate in the following Fall semester.

University of Missouri College of Education Undergraduate Freshmen and Transfer Students (First -Time, Full-Time, Degree-Seeking)														
				Retention Rates						Graduation Rates				
Program	Term	N (Total)	N Transfer only	1st FS to W/S	1st FS to 2nd FS	3rd FS	4th FS	5th FS	6th FS	Within 3 Yrs	Within 4 Yrs	Within 5 Yrs	Within 6 Yrs	Ave Yrs to Degree

Early Child BSED	FS 2014	6	6	100%	100%	50%				67%	83%	83%	83%	2.8
Early Child BSED	FS2015	8	7	63%	25%	25%				25%	25%	25%	25%	3.0
Early Child BSED	FS 2016	9	6	78%	67%	22%				22%	22%	22%	22%	3.0
Early Child BSED	FS 2017	4	3	75%	25%	25%				25%	25%	25%	25%	3.0
Early Child BSED	FS 2018	5	5	80%	60%	20%				40%	40%	40%		
Early Child BSED	FS 2019	10	6	80%	70%	60%	40%			30%	60%			
Early Child BSED	FS 2020	7	4	100%	80%	60%	20%			20%				
Early Child BSED	FS 2021	6	4	100%	100%	67%								
Early Child BSED	FS 2022	12	9	83%	58%									
Early Child BSED	FS 2023	13	11											
Elementary Ed BSED	FS 2014	62	56	95%	77%	42%	11%	5%	2%	61%	69%	71%	73%	2.8
Elementary Ed BSED	FS2015	82	77	99%	87%	37%	13%	1%		67%	80%	83%	85%	2.8
Elementary Ed BSED	FS 2016	48	47	98%	92%	49%	22%	6%	2%	61%	80%	84%	86%	2.9
Elementary Ed BSED	FS 2017	71	63	93%	86%	46%	18%	7%	1%	65%	73%	80%	82%	2.9
Elementary Ed BSED	FS 2018	53	44	91%	79%	51%	19%	6%		55%	68%	74%		
Elementary Ed BSED	FS 2019	58	52	93%	83%	48%	9%	2%		71%	79%			
Elementary Ed BSED	FS 2020	44	40	98%	95%	36%	9%			70%				

Elementary Ed BSED	FS 2021	51	47	90%	82%	31%								
Elementary Ed BSED	FS 2022	43	30	98%	93%									
Elementary Ed BSED	FS 2023	56	51											
Physical Ed BSED	FS 2014	6	5	100%	100%	33%				83%	83%	83%	83%	2.6
Physical Ed BSED	FS2015	4	3	100%	100%	75%	50%	50%		25%	25%	50%	50%	4.0
Physical Ed BSED	FS 2016	5	3	100%	60%	20%				20%	20%	20%	20%	3.0
Physical Ed BSED	FS 2017	6	4	83%	100%	67%	17%	17%		33%	33%	50%	50%	3.7
Physical Ed BSED	FS 2018	2	2	100%	100%	50%				100%	100%	100%		
Physical Ed BSED	FS 2019	2	2	100%	50%					50%	50%			
Physical Ed BSED	FS 2020	4	3	100%	100%	100%	50%			50%				
Physical Ed BSED	FS 2021	5	5	100%	100%	100%								
Physical Ed BSED	FS 2022	2	1	100%	100%									
Physical Ed BSED	FS 2023	11	9											
Secondary Ed BSED	FS 2014	24	23	88%	71%	25%	13%			42%	54%	54%	54%	2.7
Secondary Ed BSED	FS2015	14	11	86%	64%	57%	43%	14%	7%	14%	36%	57%	57%	4.0
Secondary Ed BSED	FS 2016	12	11	83%	83%	58%	17%			58%	83%	83%	83%	3.0
Secondary Ed BSED	FS 2017	19	16	79%	74%	47%	21%	5%		53%	63%	68%	68%	2.9
Secondary Ed BSED	FS 2018	17	15	88%	71%	53%	18%	6%		53%	65%	65%		

Education														
Studio Art FAC BFA, Art Education	FS2015	4	4	75%	75%	50%				75%	75%	75%	75%	2.7
Studio Art FAC BFA, Art Education	FS 2016	3	2	100%	67%									
Studio Art FAC BFA, Art Education	FS 2017	4	4	75%	50%	25%	25%			25%	50%	50%	50%	3.0
Studio Art FAC BFA, Art Education	FS 2018	2	2	50%	50%					50%	50%	50%		
Studio Art FAC BFA, Art Education	FS 2019	1	1	100%	100%					100%	100%			
Studio Art FAC BFA, Art Education	FS 2020	7	7	86%	86%	86%	43%			43%				
Studio Art FAC BFA, Art Education	FS 2021	3	3	100%	100%	33%								
Studio Art FAC BFA, Art Education	FS 2022	2	2	100%	100%									
Studio Art FAC BFA, Art Education	FS 2023	5	5											

Source: UMSL Institutional Research

E. Summary of state license examination results, including teacher performance assessments, and specification of any examinations on which the pass rate (cumulative at time of reporting) was below 80%.

The COVID-19 pandemic affected our Missouri Content Assessment (MOCA) summary pass rate for our Traditional (undergraduate) program for the Title II report year (2019-2020). It decreased sharply (83%) from the previous year's rate of 100%. Teacher candidates were unable to retake failed content exams because testing centers were closed. The State,

however, granted a one-time exemption from needing a passing content exam score and granted certification to these individuals. As we expected, we returned to our normal rate (100%) the next two academic years.

Missouri Content Assessment (MOCA) Pass Rate* - Traditional Programs - Undergraduate and Graduate (Teach in 12)

Group	# Test Takers	#Test Passers	Pass Rate
Program Completers 2021-2022	172**	172	100%
Program Completers 2020-2021	122	122	100%
Program Completers 2019-2020	130	108	83%
Program Completers 2018-2019	121	121	100%

Missouri Content Assessment (MOCA) Pass Rate* - Alternative Programs - Graduate (Teach Residency/TFA)

Group	# Test Takers	#Test Passers	Pass Rate
Program Completers 2021-2022	36**	36	100%
Program Completers 2020-2021	93	93	100%
Program Completers 2019-2020	143	143	100%
Program Completers 2018-2019	124	123	99%

*As reported by Title II.

**Beginning last year (2021-2022), MO DESE asked its EPPs to report only candidates that are teachers of record in a classroom (Teach Residency, TFA) on the Title II Alternative report. In the past we reported our post-bacc Teach in 12 program on the Alternative report as well. Forty-one Teach in 12 students were added to the Traditional report that normally would have been included in the Alternative report number.

F. Narrative explanation of **evidence available from program completers**, with a characterization of findings.

The Missouri Department of Secondary and Elementary Education (DESE) has developed a suite of six surveys educators complete in their first year of employment. These surveys were designed to evaluate the quality of the program's impact on the field

and provide data to providers to support continuous improvement. Data from the First-Year Teacher Survey (FYTS), taken by teacher data from 2022 (completers from 2020-21 academic year, first year of teaching in 2021-22 academic year) indicates that UMSL completers report their strongest areas of preparation include being “prepared to foster positive student relationships” and being “prepared to promote respect for diverse cultures, genders, and intellectual/ physical abilities.”

FYTS Question	UMSL Teacher Mean (1-5) Scale	Missouri Teacher Mean (1-5) Scale
Standard 5 Positive Classroom Environment: Foster positive student relationships	4.44	4.36
Standard 6 Effective Communication: Promote respect for diverse cultures, genders, and intellectual/physical abilities	4.17	4.24

First-Year-Teacher Survey data indicates that UMSL completers report their weakest areas of preparation include being “prepared to modify instruction for English language learners” and being “prepared to manage a variety of discipline issues”. While these are weaknesses that UMSL continues to address, it is also worth noting that these data remain comparable with state averages.

FYTS Question	UMSL Teacher Mean (1-5) Scale	Missouri Teacher Mean (1-5) Scale
Standard 2 Learning, Growth, and Development: Modify instruction for English language learners	2.98	3.28
Standard 5 Positive Classroom Environment: Prepared to manage a variety of discipline issues	3.01	3.35

G. Narrative explanation of evidence available from employers of program completers, with a characterization of findings.

Additionally, the First-Year Teacher Survey (FYTS) is completed by principals assessing UMSL teachers following their first year on the job. This data from 2022 (completers from 2020-21 academic year, first year of teaching in 2021-22 academic year) indicates that UMSL completers’ employers report UMSL completers’ strongest areas of preparation include being “prepared in his or her content area” and being “prepared to use technology to enhance student learning.”

FYTS Question	UMSL Supervisor Mean (1-5) Scale	Missouri Supervisor Mean (1-5) Scale
Standard 1 Content Knowledge: Prepared in his or her content area	4.18	4.01
Standard 6 Effective Communication: Use technology as a communication tool	4.16	4.13

First-Year-Teacher Survey data indicates that UMSL completers report their weakest areas of preparation include being “prepared to modify instruction for gifted learners” and being “prepared to manage a variety of discipline issues.” While these are weaknesses that UMSL continues to address, it is also worth noting that these data remain comparable with state averages.

FYTS Question	UMSL Supervisor Mean (1-5) Scale	Missouri Supervisor Mean (1-5) Scale
Standard 2 Learning, Growth, and Development: Modify instruction for gifted learners	3.44	3.57
Standard 5 Positive Classroom Environment Prepared to manage a variety of discipline issues	3.47	3.62

H. Narrative explanation of how the program investigates **employment rates for program completers**, with a characterization of findings. This section may also indicate rates of completers’ ongoing education, e.g., graduate study.

We use data provided by the Missouri Economic and Information Center related to long-term occupational projections to investigate employment rates for program completers related to education-related occupations in metropolitan St. Louis. The estimated employment data for 2020 related to education, training, and library occupations estimated employment was 52,802, and in 2030, it will be 57,148, an 8.2% increase. Annual education, training, and library occupation openings are 5,206. Later-top job data (jobs with a bachelor’s degree or higher education) rates secondary and elementary education jobs as a grade of “B.” Annual openings for secondary educators are 740, and for elementary educators, they are 549. Link to: [Occupation projections \(St. Louis\). Labor Supply and Demand 2021 burning glass data](#) show that there is a 6.6% demand, 7.5% projected openings, and 9% supply for education-related occupations and the Missouri workforce.

4. Candidate Academic Performance Indicators

Tables 3 and 4 report on select measures of candidate/completer performance related to AAQEP Standards 1 and 2, including the program’s expectations for successful performance and indicators of the degree to which those expectations are met.

Table 3. Expectations and Performance on Standard 1: Candidate and Completer Performance

Provider-Selected Measures	Explanation of Performance Expectation	Level or Extent of Success in Meeting the Expectation
Missouri Educator Evaluator System (MEES), standards 1-7; see table below.	The Missouri Educator Evaluation System (MEES) is a set of nine educator preparation standards listed in the tables below. UMSL uses standards 1-7 in its AAQEP standard #1 self-evaluation. Clinical teachers and clinical educators score teacher candidates on each standard 1-4, with three as “skilled candidate,” which is the expected performance level for a Missouri EPP program completer, and four as “exceeding candidate.”	UMSL candidates consistently performed on MEES standards 1-7 with their performance in previous years (see data from 2022 AAQEP Annual Report).

Average MEES Scores by Assessor, AY 2023 (n=197)	Stand1: Content Knowledge	Stand2: Learning, Growth and Development	Stand3: Curriculum Implementation	Stand4: Critical Thinking Analysis	Stand5: Positive Classroom Environment	Stand6: Effective Communication	Stand7: Student Assessment and Data Analysis
Clinical Teacher (school-based mentor)	3.43	3.32	3.38	3.13	3.41	3.40	3.34
Clinical Educator (university supervisor)	3.34	3.06	3.23	2.93	3.38	3.34	3.21

Table 4. Expectations and Performance on Standard 2: Completer Professional Competence and Growth

Provider-Selected Measures	Explanation of Performance Expectation	Level or Extent of Success in Meeting the Expectation
Missouri Educator Evaluator System (MEES), standards 8-9; see table below.	The Missouri Educator Evaluation System (MEES) is a set of nine educator preparation standards listed in the tables below. UMSL uses standards 8-9 in its self-evaluation regarding AAQEP standard #2. Both clinical teachers and clinical educators score teacher candidates on each standard 1-4, with three as “skilled candidate,” which is the expected performance level for a Missouri EPP program completer, and four as “exceeding candidate.”	UMSL candidates consistently performed on MEES standards 8-9 with their performance in previous years (see data from 2022 AAQEP Annual Report).

Average MEES Scores by Assessor, AY 2023 (n=197)	Stand8: Professionalism	Stand9: Professional Collaboration
Clinical Teacher (school-based mentor)	3.49	3.42
Clinical Educator (university supervisor)	3.37	3.21

5. Notes on Progress, Accomplishment, and Innovation

This section describes program accomplishments, efforts, and innovations (strengths and outcomes) to address challenges and priorities over the past year.

We wish to highlight items we cited in our 2022 report and provide updates.

Learning by Scientific Design (LbSD) and Teaching Beliefs and Mindset (TBMS) from the Common Indicator System network - Embedding evidenced-based practices and credible, actionable evidence into program work was a goal of our Deans For Impact work. Although our formal partnerships have ended, we continue to reinforce our learnings in our program work independently. The LbSD and TBMS measures are integrated into all of our initial teacher education programs at the introductory, developing, and mastery levels. Coursework continues to be refined as data from measures is reviewed.

Program Outcome Work—We refined program outcome and success criteria during our monthly program meeting time with program outcome team leaders and members. Additionally, we identified aligned measures to program outcomes with our Initial Teacher Education Program Measure work group. Refer to the table in Standard 1 and Standard 2 and the process to analyze data in Standard 3 noted in Part II: Self-Assessment and Continuous Growth. This work also complements the university’s curriculum alignment process (CAP) efforts.

Alternative Certification Pathways—As the teacher shortage continues to grow, we spent considerable time in 2023 on our alternative certification pathways. In spring 2023, we launched five Department of Labor (DOL) registered apprenticeships (early childhood, elementary, middle school, high school, and special education) for our graduate teacher residency candidates. We currently have 42 registered apprentices in three school districts through this program. We also re-envisioned two undergraduate apprenticeship pathways we have named “Finish Line.” These apprenticeships target school staff (e.g., paraprofessionals, long-term substitute teachers, etc.) who do not yet have an undergraduate degree and are interested in becoming teachers. The apprenticeship will allow them to stay in their current employment while simultaneously pursuing teacher certification. Both of these programs required that faculty spend significant time in summer and fall 2023 revising current curricula. Special attention was paid to on-the-job skills that teacher candidates could obtain in their workplace and how those skills could best be represented and interleaved with their university coursework.