Biological Science [BIOS]

Cycles included in this report:
Jun 1, 2021 to May 31, 2022

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Program Name: Biological Science [BIOS]

Reporting Cycle: Jun 1, 2021 to May 31, 2022

1 Is this program offered via Distance Learning?

100% Traditional or less than 50% Distance/Traditional

2 Is this program offered at an off-site location?

No

2.1 If yes to previous, provide addresses for each location where 50% or more of program credits may be earned.

3 Example of Program Improvement

2017-2018:
Many of the assessment points were tied to a genetics course. Data collection has resumed. Results from these assessments are incorporated into the report.

2018-2019:
Assessment was made from BIOL 315, BIOL 339, BIOL 404, BIOL 410, BIOL 481. Results from these assessments are incorporated into the report.

2019-2020:
Assessment was made from BIOL 339, BIOL 404, BIOL 410, BIOL 481. Results from these assessments are incorporated into the report. Due to the sudden, untimely departure of the BIOL 315 professor, a review and redesign of BIOL 315 was initiated.

2020-2021:
Assessment was made from BIOL 339, BIOL 404, BIOL 410, BIOL 481. Results from these assessments are incorporated into the report. Due to the sudden, untimely departure of the BIOL 315 professor last year, COVID-19 pandemic restrictions, and the unfortunate hurricane disaster experienced in Fall 2020, a review and redesign of BIOL 315 is continuing.

2021-2022:

4 Program Highlights from the Reporting Year

2017-2018:
Frasch Annex reopened, but as of the end of the reporting period contractual work was still underway.

2018-2019:
Contractual work continued in Frasch Annex. Offices and laboratories were moved into several renovated spaces.

2019-2020:
Laboratories in Frasch Annex were beginning to be used by faculty members and for undergraduate research, inherent in scientific investigations; however, the university ceased all face-to-face instruction in Spring 2020 due to COVID-19.

2020-2021:
COVID-19 pandemic restrictions and destructive hurricanes caused laboratories and lecture rooms in Frasch Hall/Annex to shutdown.

2021-2022:

5 Program Mission

The purpose of the B.S. in Biological Science is to provide students with the knowledge and skills required for advanced study in graduate or professional schools or to teach biology at the middle or high school level.

6 Institutional Mission Reference

This degree supports the University's fundamental mission to offer baccalaureate curricula in service to the residents and employers of the SWLA region and beyond. It prepares students to become effective in academic and professional environments.

7 Assessment and Benchmark BIOL 315 Embedded Questions

Assessment: BIOL 315 Embedded Questions.

Benchmark: 75% of all graduates will provide 'satisfactory answers' on embedded problem-solving questions which require the use of critical thinking skills in Genetics (BIOL 315).

Prior to 2017-2018, the benchmark was 75% of graduates will provide 'at least sufficient answers'.

Outcome Links

Critical Thinking [Program]
Graduates apply critical thinking to investigate biological questions.

7.1 Data

Academic Year	Graduates who provided 'satisfactory answers'	
	#	%
2016-2017	—	100%
2017-2018	—	85%
2018-2019	22/33	67%
2019-2020*	—	—
2020-2021*	—	—
2021-2022	37/48	77%

*Please see analysis

Outcome Links

Critical Thinking [Program]
Graduates apply critical thinking to investigate biological questions.

7.1.1 Analysis of Data and Plan for Continuous Improvement

2017-2018:
This benchmark was met. However, the percent of graduates providing satisfactory answers decreased from last year. Some of the embedded questions will be reviewed.

2018-2019:
This benchmark was not met. The percent of graduates providing satisfactory answers again decreased from last year. Further evaluation of embedded questions as well as re-emphasis of instructional material will be conducted.

2019-2020:
Due to the very sudden and untimely departure of the Genetics (BIOL 315) professor responsible for initiating (5 years ago), coordinating and leading BIOL 315 laboratories (part of inherent scientific interactive learning) as well as the cessation of face-to-face instruction from Spring 2020 COVID-19 instructional transition, BIOL 315 is under review and redesign.

2020-2021:

Due to the very sudden and untimely departure of the Genetics (BIOL 315) professor last spring as well as the cessation of face-to-face instruction due to 2020 COVID-19 pandemic and fall 2020 hurricane destruction, the review and redesign of BIOL 315 is continuing.

2021-2022:
The benchmark was met. This was the first year back to doing this assessment since the 2018-2019 academic year. The percentage of students successfully answering the question increased by 10% over the last assessment. Since this is the first time this assessment question has been used, we will need to acquire more data before making any recommendations on changes to be made.

8 Assessment and Benchmark BIOL 339 Embedded Problem Solving Questions

Assessment: BIOL 339 Embedded Problem Solving Questions.

Benchmark: 80% of all graduates will provide 'satisfactory answers' on embedded problem-solving questions which require the use of critical thinking skills in Evolution (BIOL 339).

Prior to 2017-2018, the benchmark was 80% of graduates will provide 'at least sufficient answers'. Prior to 2016-2017, the benchmark was 75% of all gradutes should provide 'at least sufficient answers'.

Outcome Links

Critical Thinking [Program]
Graduates apply critical thinking to investigate biological questions.

8.1 Data

Academic Year	Graduates who provided 'satisfactory answers'	
	#	%
2013-2014	—	79%
2014-2015	—	78%
2015-2016	—	81%
2016-2017	—	62%
2017-2018	—	63%
2018-2019	23/33	70%
2019-2020*	28/40	70%
2020-2021**	16/17	94%
2021-2022	45/56	75%

*COVID-19 Pandemic.
**COVID-19 Pandemic and Hurricane Disaster.

Outcome Links

Critical Thinking [Program]
Graduates apply critical thinking to investigate biological questions.

8.1.1 Analysis of Data and Plan for Continuous Improvement

2017-2018:
This benchmark was not met, although there was a slight increase from the previous year. Practice questions will be considered to better familiarize students with answering this type of question. This assessment will continue to be used.

2018-2019:

This benchmark was not met, although there was an increase compared with the previous year. Recommended questions from the textbook will be reviewed and considered to better familiarize students with answering these types of questions. This assessment will continue to be used.

2019-2020:
This benchmark was not met. There was an increase in the number of students from the previous year. The resulting data most likely were due to the transition to an online environment due to COVID-19 which is juxtaposition to in-person scientific dialogue inherent in evolution courses. This assessment will continue to be used.

2020-2021:
This benchmark was met. However, data for some graduates were destroyed during the hurricanes/subsequent clean-out and material movement due to contractor mitigation efforts in Fall 2020. BIOL 339 was still taught under COVID-19 Pandemic restrictions. This assessment will continue to be used.

2021-2022:
This benchmark was not met. The previous academic year had a 94% success rate, but this was with limited data due to the hurricanes. Although the benchmark was not met this academic year, it is going in an upward trajectory compared to the academic years prior to the Covid-19 pandemic and hurricanes. We will continue to use this assessment and watch to see if this increase in student success continues.

Outcome Links

Critical Thinking [Program]
Graduates apply critical thinking to investigate biological questions.

9 Assessment and Benchmark BIOL 339 and 410 Embedded Questions

Assessment: BIOL 339 and 410 Embedded Questions.

Benchmark: At least 85% of the graduates make 'correct' conclusions based on empirical data on embedded exam questions presenting data and requiring analysis and conclusion in BIOL 339 and BIOL 410.

Prior to 2017-2018, the benchmark was at least 85% of graduates make 'sound' conclusions.

Outcome Links

Analyzing Empirical Data [Program]
Students will demonstrate proficiency in making sound conclusions based on analyzing empirical data.

9.1 Data

Academic Year	Graduates who made 'correct' conclusions	
	#	%
2013-2014	—	83%
2014-2015	—	82%
2015-2016	—	91%
2016-2017	—	88%
2017-2018	—	94%

Academic Year	Graduates who made 'correct' conclusions			
	BIOL 339		BIOL 410	
	#	%	#	%

2018-2019	31/38	82%	39/46	85%
2019-2020	32/40	80%	31/40	78%
2020-2021	32/37	86%	20/28	71%
2021-2022	25/27	93%	22/23	96%

Outcome Links

Analyzing Empirical Data [Program]
Students will demonstrate proficiency in making sound conclusions based on analyzing empirical data.

9.1.1 Analysis of Data and Plan for Continuous Improvement

2017-2018:
This benchmark was met. This assessment percentage was the highest over a five-year period. Due to initial fluctuations in percentages, this assessment will continue to be used.

2018-2019:
The benchmark was met for BIOL 410. The benchmark was not met for BIOL 339. Review of wrong answers suggests problem was not in graphing or other first-order analysis, but rather relating outcomes to real-world applications. Course will continue to emphasize analysis of real-world data and their application.

2019-2020:
The benchmark was not met for either BIOL 339 or BIOL 410. Again, review of wrong answers suggests issue was due to relating outcomes to real-world applications. The decrease compared to last year also may be due to the transition to online instructional environments from COVID-19 which are counter productive to scientific understanding and in-person interaction inherent in STEM education. A per semester analysis showed the benchmark for BIOL 410 was low in Fall 2019, but high in Spring 2020 affecting final interpretation and analysis. This assessment will continue to be used.

2020-2021:
The benchmark was met for BIOL 339, but not for BIOL 410. Data for some graduates were destroyed during the hurricanes/subsequent clean-out and material movement due to contractor mitigation efforts in Fall 2020. Both courses were under COVID-19 Pandemic restrictions this year affecting scientific understanding and in-person interaction inherent in STEM education. This assessment will continue to be used.

2021-2022:
The benchmark was met for both Biol 339 and Biol 410. Biol 339 students have met the requirement for the last two academic years, but Biol 410 students have not met the benchmark in the three years prior. Data will be monitored in future years to determine if questions in Biol 339 should be changed. No changes will be made to either Biol 339 or Biol 410 at present.

Outcome Links

Analyzing Empirical Data [Program]
Students will demonstrate proficiency in making sound conclusions based on analyzing empirical data.

10 Assessment and Benchmark BIOL 410 Embedded Questions

Assessment: BIOL 410 Embedded Questions.

Benchmark: 75% of all graduates will provide 'satisfactory answers' on embedded problem-solving questions which require the use of critical thinking skills in Ecology (BIOL 410).

Prior to 2017-2018, the benchmark was that 75% of graduates will provide 'at least sufficient answers'.

Outcome Links

Critical Thinking [Program]
Graduates apply critical thinking to investigate biological questions.

10.1 Data

Academic Year	Graduates who provided 'satisfactory answers'	
	#	%
2013-2014	—	84%
2014-2015	—	77%
2015-2016	—	67%
2016-2017	—	75%
2017-2018	—	81%
2018-2019	19/28	68%
2019-2020*	17/43	39%
2020-2021**	13/20	65%
2021-2022	37/47	79%

*COVID-19 Pandemic.
**COVID-19 Pandemic and hurricane disaster.

Outcome Links

Critical Thinking [Program]
Graduates apply critical thinking to investigate biological questions.

10.1.1 Analysis of Data and Plan for Continuous Improvement

2017-2018:
This benchmark was met. This assessment will continue to be used since the 2015-2016 percentage was below the benchmark and 2016-2017 percentage was just at the benchmark.

2018-2019:
The benchmark was not met. Practice questions will be instituted to better familiarize students with answering this type of question. The observed fluctuation will continue to be monitored and questions will be reviewed to hone students' skills. This assessment will continue to be used.

2019-2020:
The benchmark was not met. The decrease compared to last year may be due to the transition to online instructional environments from COVID-19 which are counter productive to scientific understanding and in-person interaction inherent in STEM education as well as cohort abilities. A per semester analysis showed the benchmark for BIOL 410 was low in Fall 2019, but high in Spring 2020 affecting final interpretation and analysis.

2020-2021:
The benchmark was not met. However, there was an increase compared to last year. Data most likely affected by COVID-19 Pandemic and hurricanes of Fall 2020. Data for some graduates were destroyed during the hurricanes/subsequent clean-out and material movement due to contractor mitigation efforts in Fall 2020. BIOL 410 was still taught under COVID-19 Pandemic restrictions.

2021-2022:
The benchmark was met. There was a considerable increase compared to the previous 3 years. We will continue to use this assessment for next year and determine whether benchmarks or the method of testing should be changed.

Outcome Links

Critical Thinking [Program]

Graduates apply critical thinking to investigate biological questions.

11 Assessment and Benchmark BIOL 404 Sound Conclusions

Assessment: BIOL 404 Sound Conclusions.

Benchmark: At least 85% of the graduating biological science seniors who enroll in BIOL 404 submit a research paper and/or present a poster or oral presentation at a professional meeting in which 'correct' conclusions were made after analyzing empirical data.

Prior to 2017-2018, the benchmark was at least 85% of the graduating biological science seniors who enroll in BIOL 404 submit a research paper and/or present a poster or oral presentation at a professional meeting in which 'sound' conclusions were made after analyzing empirical data.

Outcome Links

Analyzing Empirical Data [Program]
Students will demonstrate proficiency in making sound conclusions based on analyzing empirical data.

11.1 Data

Academic Year	Seniors who provided 'sound conclusions'	
	#	%
2013-2014	—	100%
2014-2015	—	100%
2015-2016	—	100%
2016-2017	—	100%
2017-2018	—	100%
2018-2019	4/4	100%
2019-2020	8/9	89%
2020-2021	9/9	100%
2021-2022	11/11	100%

Outcome Links

Analyzing Empirical Data [Program]
Students will demonstrate proficiency in making sound conclusions based on analyzing empirical data.

11.1.1 Analysis of Data and Plan for Continuous Improvement

2017-2018:
This benchmark was met. This assessment will continue to be used and more students will be encouraged to enroll in research courses, especially with the projected opening of Frasch Annex and research labs.

2018-2019:
This benchmark was met. This assessment will continue to be used and more students will be encouraged to enroll in research courses. Research components are under review to engage more students in interactive learning and professional development.

2019-2020:
The benchmark was met; however, a decrease was observed possibly due to the transition to online instructional environments from COVID-19 which are counter productive to scientific understanding and in-person interaction inherent in research courses.

2020-2021:
This benchmark was met. This assessment will continue to be used and more students will be encouraged to enroll in research courses. The current COVID-19 Pandemic and recent destructive hurricanes affected in-person interaction inherent in research courses.

2021-2022:
This benchmark was met. With face-to-face classes resuming, students had a better opportunity for interacting with professors one-on-one for research purposes. This assessment will continue to be used.

Outcome Links

Analyzing Empirical Data [Program]
Students will demonstrate proficiency in making sound conclusions based on analyzing empirical data.

12 Assessment and Benchmark BIOL 481 Senior Seminar

Assessment: BIOL 481 Senior Seminar.

Benchmark 1: At least 85% of the students will achieve a grade of 70% or higher on the writing rubric.

Benchmark 2: At least 85% of the students will earn a grade of 70% or higher on the Biology Seminar rubric used by all biology faculty members who attend the students' seminar presentations.

Outcome Links

Scientific Communication [Program]
Graduates formulate and express ideas effectively through oral, written, and technological communications in a format expected of professional biologists.

12.1 Data

Academic Year	Students achieving 70%	
	#	%
2013-2014	—	87%
2014-2015	—	85.7%
2015-2016	—	88%
2016-2017	—	86%
2017-2018	—	85%
2018-2019	26/35	74%
2019-2020	28/34	82%
2020-2021	43/52	83%
2021-2022	39/44	89%

Outcome Links

Scientific Communication [Program]
Graduates formulate and express ideas effectively through oral, written, and technological communications in a format expected of professional biologists.

12.1.1 Analysis of Data and Plan for Continuous Improvement

2017-2018:
This benchmark was met. However, there is a slow decline in benchmark percentages since 2015. This assessment will continue to be used and proficiency in writing will be addressed via review.

2018-2019:
The benchmark was not met. Since 2015, benchmark percentages continue to decline. Since this is the first year below benchmark, increased writing reviews will be implemented. This assessment will continue to be used and proficiency in writing will be addressed.

2019-2020:

The benchmark was not met. Since 2015, benchmark percentages have declined until this year. This is the second year below benchmark. Writing reviews were implemented and there was an increase in the percent of achievement; however, the increase did not meet benchmark. Another factor affecting the percent was the transition to online instructional environments from COVID-19 which are counter productive to scientific understanding and in-person interaction inherent in STEM education. This assessment will continue to be used and proficiency in writing will be addressed.

2020-2021:
The benchmark was not met. This is the third year below benchmark. Writing reviews continued to be used and there was an increase in the percent of achievement; however, the increase did not meet benchmark. Other factors most likely affecting the percent was the online instructional environment due to COVID-19 Pandemic as well as destructive hurricanes of Fall 2020. This assessment will continue to be used and proficiency in writing will be addressed.

2021-2022:
The benchmark was met. This is the first year above benchmark since AY 2017-2018. Writing reviews continued to be used. There was an increase in the percent of achievement. Other factors most likely affecting the percent was the continued online instructional environment due to COVID-19 Pandemic as well as continued recovery efforts from the destructive hurricanes of Fall 2020. Since this is the first time attaining benchmark in the last four years, this assessment will continue to be used.

Outcome Links

Scientific Communication [Program]
Graduates formulate and express ideas effectively through oral, written, and technological communications in a format expected of professional biologists.

12.2 Data

Academic Year	Students achieving 70%	
	#	%
2013-2014	—	87%
2014-2015	—	85.7%
2015-2016	—	88%
2016-2017	—	94%
2017-2018	—	97%
2018-2019	33/35	94%
2019-2020	33/34	97%
2020-2021	52/52	100%
2021-2022	43/44	97%

Files: See list of attachments to view. (Requires Adobe Reader or compatible viewer).

BIOL 481 Presentation Rubric - Jul 2017
BIOL 481 Presentation Rubric - Jul 2017

Outcome Links

Scientific Communication [Program]
Graduates formulate and express ideas effectively through oral, written, and technological communications in a format expected of professional biologists.

12.2.1 Analysis of Data and Plan for Continuous Improvement

2017-2018:
This benchmark was met. This assessment will continue to be used pending data from next year.

2018-2019:
This benchmark was met. This assessment will continue to be used since the data show a decrease. Further review may be required.

2019-2020:
The benchmark was met and an increase was noted. The assessment will continue to be used since the transition to online instruction due to COVID-19 may/will affect presentation assessment. Online instructional environments where "professional" scientific presentations are required are counter intuitive to scientific understanding and in-person interaction inherent in capstone education. Adaptations are being considered.

2020-2021:
The benchmark was met. The assessment will continue to be used since online instruction due to COVID-19 Pandemic may/will affect presentation assessment. Online instructional environments are counter intuitive to scientific understanding and in-person interaction inherent in capstone education. However, due to the pandemic and recent hurricane destruction, adaptations are still under consideration.

2021-2022:
The benchmark was met, but a decrease was noted. The assessment will continue to be used since there was a return this AY to in-class presentations from online instruction and presentations due to COVID-19 Pandemic. This transition may affect presentation assessment.

13 Assessment and Benchmark Enrollment, Completion, Retention, and Recruitment

Assessment: Enrollment, Completion, Retention, and Recruitment.

Benchmark: Department will increase enrollment by 7% each year for the BS Secondary Education concentration.

13.1 Data

Program: BS Secondary Biology

Academic Year	# enrolled in the program	# of program completers
2013-2014	4	2
2014-2015	2	2
2015-2016	0	0
2016-2017	1	1
2017-2018	2	0
2018-2019	1	0
2019-2020	1	1
2020-2021	1	0
2021-2022	3	0

13.1.1 Analysis of Data and Plan for Continuous Improvement

2017-2018:
Analysis of Data: The benchmark was met. After a decline in enrollment from 2013-2014, there was an increase in enrollment from one to two candidates in 2017-2018. This number is official enrollment, which means that the candidates have submitted an EDUC 200 packet.

Plan for Continuous Improvement: The goal for 2018-2019 will be to increase enrollment by 7% across programs each year from fall 2017 to fall 2021 to coincide with the MSU Strategic Plan goal concerning enrollment and recruitment.

Secondary education faculty along with biology education faculty, through participation in the Noel Levitz Recruiting Initiative, will contact students who have inquired or applied to McNeese to enroll in education or who are undecided about a major.
Seeing an increase in first time students majoring in biology education will assess the goal. The number of contacts with potential students will be tracked along with successful recruitment numbers.

2018-2019:
Data Analysis:
The benchmark was not met. There was a decrease from 2 to 1 student enrolled in the program from the previous year. Since there were no completers from the previous year, we would have to conclude that one of those candidates dropped from the program and/or University.

Plan for Continuous Improvement:
The goal for the 2019-2020 AY will be to increase student enrollment by 7%.

Recommendation for Successful Implementation of Plan for Improvement:

- Secondary and Biology faculty will participate in the Education Professions Advising Session after the 14th day of each semester to make connections with candidates and provide guidance for official acceptance into the program.
- Faculty will attend recruitment events such as recruitment fairs, the Sulphur Career Fair, Geaux Teach- Unlock Education, and will visit at least two local high schools with the purpose of recruiting for education programs.
- Promote Ed Rising in the local school districts to recruit to the education profession. Complete process to give credit for two education courses within the program for participation and completion of assessments in the Ed Rising High School Program.

2019-2020:

2020-2021:
The benchmark was not met. The number of candidates enrolled in the program has remained the same over the past three academic years. There is one candidate currently enrolled in the program.

The EPP faculty are working on additional avenues to recruit students. Educators Rising was placed into two local high schools to assist high school students in learning more about the education profession. Unlock Education has also expanded to include additional high schools in the area to recruit students to MSU and the education programs. In the upcoming year, faculty will reach out to local high schools promoting Ed Rising and recruiting students to our programs.

2021-2022:
There was an increase in the number of candidates enrolled in Biological Sciences with a concentration in Biology Education, Grades 6-12 in the 2021-2022 academic year. Three candidates were officially accepted into the program with an EDUC 200 packet. There were not completers in the 2021-2022 academic year.

The Burton College of Education and particularly the Department of Education Professions has made intentional efforts to recruit candidates into teacher-education programs and has focused particular attention on those from diverse backgrounds and within high needs areas. In addition to traditional attendance at parish career fairs and expos, the following are part of the MSU Department of Education Professions (EDPR) Recruitment and Retention Plan: Unlock Education, Call Me MISTER, Educators Rising, and minors.

Although the efforts are strong and we are committed to recruiting candidates from diverse backgrounds, results of these efforts are not immediate as these students are juniors or seniors in high school and the data reported in the Performance Profile for education provider programs is on completers. We will track the data for program admission to monitor

new students and make adjustments as needed to attract a diverse group of candidates interested in the field of education.

14 Assessment and Benchmark Field Experience Evaluation Domain 5

Assessment: Field Experience Evaluation Domain 5.

Benchmark: 100% of the candidates will score a 3.00 or above on each element of the Content Standards assessed in Domain 5 of the final Field Experience Evaluation (FEE) rubric administered during the internship/student teaching semester.

14.1 Data

2017-2018:
There were no completers in 2017-2018.

Biology	Fall 2018			Spring 2019			Fall 2019			Spring 2020		
Component	#	Mean	Range	#	Mean	Range	#	Mean	Range	#	Mean	Range
5.1	0	—	—	0	—	—	0	—	—	1	3.50	3.50
5.2	0	—	—	0	—	—	0	—	—	1	3.00	3.00
5.3	0	—	—	0	—	—	0	—	—	1	3.30	3.30
5.4	0	—	—	0	—	—	0	—	—	1	3.00	3.00
5.5	0	—	—	0	—	—	0	—	—	1	3.30	3.30
5.6	0	—	—	0	—	—	0	—	—	1	4.00	4.00
5.7	0	—	—	0	—	—	0	—	—	1	4.00	4.00
5.8	0	—	—	0	—	—	0	—	—	—	—	—
5.9	0	—	—	0	—	—	0	—	—	1	3.80	3.80

2020-2021:
There were no completers in the 2020-2021 academic year and, therefore, no new data to report.

Biology	Fall 2021			Spring 2022			Fall 2022			Spring 2023		
Component	#	Mean	Range	#	Mean	Range	#	Mean	Range	#	Mean	Range
5.1	0	—	—	0	—	—						
5.2	0	—	—	0	—	—						
5.3	0	—	—	0	—	—						
5.4	0	—	—	0	—	—						
5.5	0	—	—	0	—	—						
5.6	0	—	—	0	—	—						
5.7	0	—	—	0	—	—						
5.8	0	—	—	0	—	—						
5.9	0	—	—	0	—	—						

14.1.1 Analysis of Data and Plan for Continuous Improvement

2017-2018:
Analysis of Data: There were no completers in 2017-2018; therefore, there is no new data to analyze.

2018-2019:
Data Analysis: There were no completers in the 2018-2019 AY, therefore there is no new data to analyze.

2019-2020:

2020-2021:
There were no completers in the 2020-2021 academic year and therefore no new data to report. The POP Cycle will be implemented for the observations in each of the teacher residency semesters. Data driven professional development sessions for the candidates will be delivered each week. Additionally, the EPP faculty will update the FEE domain 5 to the current content standards in summer 2021.

2021-2022:
There were no completers in the 2021-2022 academic year with a concentration in Biology Education therefore no new data was reported.

All major assessments, including the field experience evaluation, are being realigned to the 2022 Danielson Framework for Teaching Model in preparation for the Fall 2024 CAEP accreditation visit therefore a new assessment will be implemented in Fall 2022. The content domain is being reviewed by content faculty and will also be involved in evaluation of content knowledge while candidates are teaching in the classroom during residency.

15 Assessment and Benchmark Lesson Planning

Assessment: Lesson Planning.

Benchmark: 100% of candidates will score 3.00 or above on each element assessed on the Lesson Plan rubric.

Prior to 2017-2018, the benchmark was 80% of candidates.

15.1 Data

Rubric Element	Standard	InTASC Standard		Fall 2015	Spring 2016	Fall 2016	Spring 2017	Fall 2018	Spring 2019
Essential Questions			Number	0	0	0	1	0	0
			Mean				3	—	—
			Range				3	—	—
			% Proficient or Higher				100%	—	—
Content Standards			Number				1	0	0
			Mean				4	—	—
			Range				4	—	—
			% Proficient or Higher				100%	—	—
Student Outcomes		4n	Number				1	0	0
			Mean				2	—	—
			Range				2	—	—
			% Proficient or Higher				100%	—	—
Technology		5l	Number				1	0	0
			Mean				4	—	—
			Range				4	—	—
			% Proficient				100%	—	—

			or Higher						
Educational Materials			Number				1	0	0
			Mean				4	—	—
			Range				4	—	—
			% Proficient or Higher				100%	—	—
Procedures		3k	Number				1	0	0
			Mean				4	—	—
			Range				4	—	—
			% Proficient or Higher				100%	—	—
Lesson "Hook"		8j	Number				1	0	0
			Mean				4	—	—
			Range				4	—	—
			% Proficient or Higher				100%	—	—
Pre-Planned (Seed) Questions		8i	Number				1	0	0
			Mean				4	—	—
			Range				4	—	—
			% Proficient or Higher				100%	—	—
Modeled, Guided, Collab, & Ind. Practice		7k	Number				1	0	0
			Mean				4	—	—
			Range				4	—	—
			% Proficient or Higher				100%	—	—
Closure			Number				1	0	0
			Mean				4	—	—
			Range				4	—	—
			% Proficient or Higher				100%	—	—
Formative /Summative Assessment		6j	Number				1	0	0
			Mean				4	—	—
			Range				4	—	—
			% Proficient or Higher				100%	—;	—
Relevance & Rationale		2j	Number				1	0	0
			Mean				4	—	—
			Range				4	—	—
			%						

			Proficient or Higher				100%	—	—
Exploration, Extension, Supplemental		1e	Number				1	0	0
			Mean				4	—	—
			Range				4	—	—
			% Proficient or Higher				100%	—	—
Differentiation		7j	Number				1	0	0
			Mean				2	—	—
			Range				2	—	—
			% Proficient or Higher				100%	—	—

2019-2020:
See attached file.

2020-2021:
There were no completers in the 2020-2021 academic year and, therefore, no new data to report.

Rubric Element	Standard	InTASC Standard		Fall 2021	Spring 2022	Fall 2022	Spring 2023	Fall 2023	Spring 2024
Essential Questions			Number	0	0				
			Mean						
			Range						
			% Proficient or Higher						
Content Standards			Number						
			Mean						
			Range						
			% Proficient or Higher						
Student Outcomes		4n	Number						
			Mean						
			Range						
			% Proficient or Higher						
Technology		5l	Number						
			Mean						
			Range						
			% Proficient or Higher						
			Number						

Educational Materials			Mean						
			Range						
			% Proficient or Higher						
Procedures		3k	Number						
			Mean						
			Range						
			% Proficient or Higher						
Lesson "Hook"		8j	Number						
			Mean						
			Range						
			% Proficient or Higher						
Pre-Planned (Seed) Questions		8i	Number						
			Mean						
			Range						
			% Proficient or Higher						
Modeled, Guided, Collab, & Ind. Practice		7k	Number						
			Mean						
			Range						
			% Proficient or Higher						
Closure			Number						
			Mean						
			Range						
			% Proficient or Higher						
Formative /Summative Assessment		6j	Number						
			Mean						
			Range						
			% Proficient or Higher						
Relevance & Rationale		2j	Number						
			Mean						
			Range						
			% Proficient or Higher						
			Number						

Exploration, Extension, Supplemental		1e	Mean						
			Range						
			% Proficient or Higher						
Differentiation		7j	Number						
			Mean						
			Range						
			% Proficient or Higher						

Files: See list of attachments to view. (Requires Adobe Reader or compatible viewer).

2019-2020_Lesson Plan Data_BS Biology Education
2019-2020_Lesson Plan Data_BS Biology Education

15.1.1 Analysis of Data and Plan for Continuous Improvement

2017-2018:
Analysis of Data: There were no completers in 2017-2018, therefore there is no new data to analyze.

2018-2019:
Analysis of Data: There were no completers in 2018-2019, therefore there is no new data to analyze.

2019-2020:

2020-2021:
There were no completers during the 2020-2021 academic year and therefore no new data to report. EDUC 318 was added as a requirement to the Secondary programs to provide candidates with a foundation to implement lesson planning throughout their methods coursework. Faculty will continue to evaluate lesson plan data within their courses at the end of each semester. Each summer semester, faculty make recommendations for edits to the Lesson Plan Template and Rubric and/or to the methods for instructing lesson plan activities based on the analysis of the data collected. The plan is revised and an updated version is put in to place for the following fall semester. During the summer 2021 semester, course progressions will be reviewed to determine best practices for implementing the lesson plan.

2021-2022:
There were no completers in the 2021-2022 academic year with a concentration in Biology Education therefore no new data was reported.

All major assessments, including the lesson, are being realigned to the 2022 Danielson Framework for Teaching Model in preparation for the Fall 2024 CAEP accreditation visit therefore a new assessment will be implemented in Fall 2022.

16 Assessment and Benchmark Field Experience Evaluation

Assessment: Field Experience Evaluation, Domains 1-4.

Benchmark: 100% of candidates will achieve a score of 3.00 or better on each element assessed on the FEE.

Prior to 2017-2018, the benchmark was 100% of students will meet or exceed the benchmark of 2.00.

16.1 Data

2017-2018:
There were no completers in 2017-2018.

Biology Component	InTASC Standard	Fall 2018			Spring 2019			Fall 2019			Spring 2020		
		#	Mean	Range	#	Mean	Range	#	Mean	Range	#	Mean	Range
1.1.1	4n	0	—	—	0	—	—	0	—	—	1	3.00	3.00
1.1.2	6r	0	—	—	0	—	—	0	—	—	1	3.00	3.00
1.1.3	2g	0	—	—	0	—	—	0	—	—	1	3.30	3.30
1.1.4	1b	0	—	—	0	—	—	0	—	—	1	3.30	3.30
2.1.1	3;	0	—	—	0	—	—	0	—	—	1	3.00	3.00
2.1.2	3d	0	—	—	0	—	—	0	—	—	1	2.80	2.80
2.1.3	3d	0	—	—	0	—	—	0	—	—	1	2.80	2.80
2.1.4	3d	0	—	—	0	—	—	0	—	—	1	2.80	2.80
2.2.1	3c	0	—	—	0	—	—	0	—	—	1	2.50	2.50
2.2.2	3f	0	—	—	0	—	—	0	—	—	1	2.80	2.80
2.2.3	3f	0	—	—	0	—	—	0	—	—	1	3.00	3.00
3.1.1	8f	0	—	—	0	—	—	0	—	—	1	2.00	2.00
3.1.2	4c	0	—	—	0	—	—	0	—	—	1	2.00	2.00
3.1.3	5e	0	—	—	0	—	—	0	—	—	1	2.30	2.30
3.2.1	7a	0	—	—	0	—	—	0	—	—	1	2.50	2.50
3.2.2	3j	0	—	—	0	—	—	0	—	—	1	2.50	2.50
3.2.3	4f	0	—	—	0	—	—	0	—	—	1	3.00	3.00
3.2.4	3d	0	—	—	0	—	—	0	—	—	1	3.30	3.30
3.3.1	6d	0	—	—	0	—	—	0	—	—	1	2.80	2.80
3.3.2	6a	0	—	—	0	—	—	0	—	—	1	2.80	2.80
3.3.3	6d	0	—	—	0	—	—	0	—	—	1	3.00	3.00
3.3.4	8b	0	—	—	0	—	—	0	—	—	1	3.00	3.00
4.1.1	9o	0	—	—	0	—	—	0	—	—	1	3.80	3.80
4.1.2	9l	0	—	—	0	—	—	0	—	—	1	3.80	3.80
4.1.3	9o	0	—	—	0	—	—	0	—	—	1	3.80	3.80

2020-2021:
There were no completers in the 2020-2021 academic year and, therefore, no new data to report.

2021-2022:
There were no completers in the 2021-2022 academic year and, therefore, no new data to report.

16.1.1 Analysis of Data and Plan for Continuous Improvement

2017-2018:
Analysis of Data: There were no completers in 2017-2018, therefore there is no new data to analyze.

2018-2019:
Analysis of Data: There were no completers in the 2018-2019 AY, therefore there is no new data to analyze.

2019-2020:

2020-2021:
There were no completers during the 2020-2021 academic year and therefore no new data to report. The POP Cycle will be implemented for two formal observations during each semester of residency. Walk throughs will also be conducted to support areas for improvement identified in the FEE data for each student. Additionally, seminars and personalized coaching by mentors and site supervisors will support the growth of candidates during the residency semester to meet standards identified on the FEE rubric and to become better teachers.

2021-2022:
There were no completers in the 2021-2022 academic year with a concentration in Biology Education therefore no new data was reported.

All major assessments, including the field experience evaluation, are being designed and aligned to the 2022 Danielson Framework for Teaching Model in preparation for the Fall 2024 CAEP accreditation visit therefore a new assessment will be implemented in Fall 2022.

17 Assessment and Benchmark Teacher Candidate Work Sample

Assessment: Teacher Candidate Work Sample.

Benchmark: 100% of candidates will score a 3.00 or better on each element of the Teacher Candidate Work Sample.

Prior to 2017-2018, the benchmark was 80% of students will meet or exceed the benchmark of 3.00.

17.1 Data

Criteria		Fall 2015	Spring 2016	Fall 2016	Spring 2017	Fall 2018	Spring 2019
Choice of Assessment	Number				1	0	0
	Mean				4	—	—
	Range				4	—	—
	% Proficient or Higher				100%	—	—
Pre-assessment	Number				1	0	0
	Mean				4	—	—
	Range				4	—	—
	% Proficient or Higher				100%	—	—
Post-assessment	Number				1	0	0
	Mean				4	—	—
	Range				4	—	—
	% Proficient or Higher				100%	—	—
Alignment of Lesson Evidence	Number				1	0	0
	Mean				4	—	—
	Range				4	—	—
	% Proficient or Higher				100%	—	—
Student Level of Mastery & Evaluation	Number				1	0	0
	Mean				4	—	—
	Range				4	—	—

of Factors	% Proficient or Higher				100%	—	—
Data to Determine Patterns & Gaps	Number				1	0	0
	Mean				4	—	—
	Range				4	—	—
	% Proficient or Higher				100%	—	—
Response to Interventions	Number				1	0	0
	Mean				4	—	—
	Range				4	—	—
	% Proficient or Higher				100%	—	—

2019-2020:
See attached file.

2020-2021:
There were no completers in the 2020-2021 academic year and, therefore, no new data to report.

Criteria		Fall 2021	Spring 2022	Fall 2022	Spring 2023	Fall 2023	Spring 2024
Choice of Assessment	Number	0	0				
	Mean						
	Range						
	% Proficient or Higher						
Pre-assessment	Number						
	Mean						
	Range						
	% Proficient or Higher						
Post-assessment	Number						
	Mean						
	Range						
	% Proficient or Higher						
Alignment of Lesson Evidence	Number						
	Mean						
	Range						
	% Proficient or Higher						
Student Level of Mastery & Evaluation of Factors	Number						
	Mean						
	Range						
	% Proficient or Higher						
	Number						

Data to Determine Patterns & Gaps	Mean						
	Range						
	% Proficient or Higher						
Response to Interventions	Number						
	Mean						
	Range						
	% Proficient or Higher						

Files: See list of attachments to view. (Requires Adobe Reader or compatible viewer).

2019-2020_TCWS Data_BS SEC BIOL
2019-2020_TCWS Data_BS SEC BIOL

17.1.1 Analysis of Data and Plan for Continuous Improvement

2017-2018:
Analysis of Data: There were no completers in 2017-2018, therefore there is no new data to analyze.

2018-2019:
Analysis of Data: There were no completers in the 2018-2019 AY, therefore there is no new data to analyze.

2019-2020:

2020-2021:
There were no completers for this program in the 2020-2021 academic year and therefore no new data to report. The Teacher Candidate Work Sample has been revised and is now the Teaching Cycle Assessment. This assessment was piloted in the 2018-2019 academic year and was fully implemented into all programs and methods courses in the 2029-2020 academic year. This tool is used to provide useful data for diagnosing strengths and areas for improvement in the practices of our candidates as they work to move children. The rainbow chart will be reviewed and revised summer 2021 so that the Teaching Cycle components are introduced sequentially throughout the program.

2021-2022:
There were no completers in the 2021-2022 academic year with a concentration in Biology Education therefore no new data was reported.

All major assessments, including the teaching, are being revised and aligned to the 2022 Danielson Framework for Teaching Model in preparation for the Fall 2024 CAEP accreditation visit therefore a new assessment will be implemented in Fall 2022.

18 Assessment and Benchmark PRAXIS II Principles of Learning and Teaching

Assessment: Praxis Principles of Learning and Teaching Exam.

Benchmark: 80% of the candidates will pass the Praxis Principles of Learning and Teaching Exam on the first attempt.

18.1 Data

BIOL 5624:

		Fall 2015	Spring 2016	Fall 2016	Spring 2017	Fall 2018	Spring 2019
Overall Score	Number	0	0	0	1	0	0
	Mean				180	—	—
	Range				180	—	—

Information	% Pass 1st attempt				100%	—	—
	% Pass prior to ST/Intern				100%	—	—
Subcomponent:							
Students	Number				1	0	0
	Mean				16	—	—
	Range				16	—	—
Instruction	Number				1	0	0
	Mean				16	—	—
	Range				16	—	—
Assessment	Number				1	0	0
	Mean				14	—	—
	Range				14	—	—
Professional Development	Number				1	0	0
	Mean				10	—	—
	Range				10	—	—
Analysis	Number				1	0	0
	Mean				9	—	—
	Range				9	—	—

2020-2021:
There were no completers in the 2020-2021 academic year and, therefore, no new data to report.

2021-2022:
There were no completers in the 2021-2022 academic year and, therefore, no new data to report.

BIOL 5624:

		Fall 2019	Spring 2020	Fall 2022	Spring 2023	Fall 2023	Spring 2024
Overall Score Information	Number	0	1				
	Mean		173				
	Range		173				
	% Pass 1st attempt		100%				
	% Pass prior to ST/Intern		100%				
Subcomponent:							
Students	Number		1				
	Mean		12				
	Range		12				
Instruction	Number		1				
	Mean		15				
	Range		15				
	Number		1				

Assessment	Mean		9				
	Range		9				
Professional Development	Number		1				
	Mean		10				
	Range		10				
Analysis	Number		1				
	Mean		12				
	Range		12				

18.1.1 Analysis of Data and Plan for Continuous Improvement

2017-2018:
Analysis of Data: There were no completers in 2017-2018, therefore there is no new data to analyze.

2018-2019:
Analysis of Data: There were no completers in the 2018-2019 AY, therefore there is no new data to analyze.

2019-2020:

2020-2021:
There were no completers during the 2020-2021 academic year. Previous completers have passed the PLT on the first attempt so there is not a need for immediate concern. With the redesign of the program for teacher residency, particular coursework has been strategically determined to assist candidates on acquiring the knowledge needed for the exam.

Candidates are advised to take the exam soon after completing PSYC 261 and EDUC 203 which according to sequence falls sophomore mid-year.

2021-2022:
There were no completers in the 2021-2022 academic year with a concentration in Biology Education therefore no new data was reported.

All content faculty are reviewing and continuing to revise coursework to align to the Praxis content exams to ensure that candidates acquire the necessary knowledge to pass the content exam and to perform successfully in the classroom.

19 Assessment and Benchmark Curriculum Development

Assessment: Curriculum Development.

Benchmark: Program faculty will meet at least two times per year to discuss continuous improvement efforts in curriculum development.

Prior to 2017-2018, the benchmark was program faculty meets three times per academic year to review student progress, curricular offerings, and appropriate professional contacts and opportunities.

19.1 Data

2017-2018:
- January 8, 2018 - Overview of Assessment Data
- January 9, 2018 - Advising Workshop
- January 19, 2018 - Geaux Teach- Recruitment
- May, 2018 - EPAC meeting to discuss upcoming program redesigns

2018-2019:
- June 11, 2018 - Redesign and Update Meeting for TPP
- June 21, 2018 - Redesign and Update Meeting

- October 2018 - K-12/Secondary Redesign

2019-2020:

2020-2021:
- January 14, 2021 - EPAC Meeting
- February 11, 2021 - EPAC Meeting
- March 11, 2021 - EPAC Meeting
- April 15, 2021 - EPAC Meeting

2021-2022:
- EPAC Meetings from 4:00-5:00 pm
  - February 14, 2022
  - February 21, 2022
  - March 7, 2022
  - March 21, 2022
  - April 4, 2022

19.1.1 Analysis of Data and Plan for Continuous Improvement

2017-2018:
Biology faculty have been working with Education faculty in recruitment efforts and program improvement efforts. Together, they will be working to redesign the program to meet the year-long residency requirements set forth by the state.

2018-2019:
Biology faculty and education faculty worked to create and implement a redesigned curriculum for the 2019-2020 AY. All faculty will continue to recruit and work together to increase enrollment in the program.

2019-2020:

2020-2021:
During the spring 2021 semester, monthly Education Programs Advisory Council (EPAC) meetings were held to discuss current topics involving secondary/P-12 education programs. Faculty from each college with secondary education concentrations are represented on EPAC. Topics included POP Cycle, high leverage practices, field experiences and other concerns brought to the surface by faculty. During the 2021-2022 academic year, EPAC meetings will continue to occur monthly. Additionally, EPAC faculty are invited to all professional development opportunities hosted within DEP.

2021-2022:
Secondary, P-12, and EDPR faculty representatives met regularly during the spring 2022 semester. Updates were provided, strategic plans for recruiting new candidates were discussed, and curriculum was reviewed.

EPAC representatives are responsible for reviewing the Praxis content exam and field experience content domain for curriculum revisions to be implemented in fall 2022.

End of report