

Weber State University  
Biennial Report on Assessment of Student Learning

Cover Page

Department/Program: Department of Microbiology  
Academic Year of Report: 2018/19 (covering Summer 2017 through Spring 2019)  
Date Submitted:  
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**A. Brief Introductory Statement:**

Please review the Introductory Statement and contact information for your department or academic program displayed on the assessment site: <http://www.weber.edu/portfolio/departments.html> - if this information is current, please place an 'X' below. No further information is needed.

**Information is current; no changes required.**

Update if not current:

**B. Mission Statement**

Please review the Mission Statement for your department or academic program displayed on the assessment site: <http://www.weber.edu/portfolio/departments.html> - if the mission statement is current, please place an 'X' below.; If the information is not current, please provide an update:

**Information is current; no changes required.** Minor edits

Update if not current:

**Department of Microbiology Mission Statement**

The Department of Microbiology seeks to provide a quality undergraduate education to students of Weber State University in both general education and discipline-specific courses. We strive to provide our graduates with a solid academic foundation in microbiology for further educational opportunities, and the knowledge and skills for career opportunities upon graduation. We seek to integrate into the students' program of study the development of skills including critical thinking, problem solving, teamwork, written and oral communication, and laboratory research techniques. The department provides opportunities for research and other scholarly activities for both faculty and students. The department and its graduates serve as an important resource for the campus and the state of Utah in the area of microbiology. We attempt to inspire life-long learning and teach students the broad range of disciplines in microbiology. We also believe that a more knowledgeable public will be able to make more informed decisions with regard to scientific issues that impact their lives.

**C. Student Learning Outcomes**

Please review the [Student Learning Outcomes](#) for your academic program displayed on the assessment site: <http://www.weber.edu/portfolio/departments.html>. In particular, review in light of recent strategic reporting and indicate any needed updates. If the outcomes are current, mark below.

**Information is current; no changes required.**

Update if not current:

## D-1. Curriculum

*“A collection of courses is not a program. A curriculum has coherence, depth, and synthesis.”*

(Linda Suskie; presentation at NWCCU Assessment Fellowship, June 19, 2019)

Please review the [Curriculum Grid](#) for your department or academic program displayed on the assessment site:

<http://www.weber.edu/portfolio/departments.html>.

Indicate in the curriculum grid where graduating student performance is assessed for each program outcome. In the ‘additional information’ section, please provide information about these assessments (e.g., portfolios, presentations, projects, etc.) This information will be summarized at the college and institutional level for inclusion in our NWCCU reporting on student achievement.

### Curriculum Map Format

	Core Concepts					Fundamental Skills							
	Model systems for Basic Biology	Integral role in Disease and Human Health	Ubiquitous in nature	Vital Role – Integration of Science and Society	Indispensable role in Environment and Ecology	Nature of Science	Laboratory Skills	Critical thinking	Data Analysis	Problem Solving	Communication	Cooperation	Values
<b>Required Courses</b>													
2054, Principles of Microbiology	1, A	2, A	2, A	1, A	2	1	3, A	1	1	1	1	2	1
3053, Microbiological Procedures	2, A					3, A	3, A	3	3	3	3	3	
3154, Microbial Ecology	2, A	2	3, A	2	3, A	3, A	3, A	3, A			2, A	2, A	2
4054, Microbial Physiology	3, A	2	3, A	2	3, A		3, A		3, A			3, A	3
4154, Microbial Genetics	3, A		1	2	3, A	2	3, A	2, A	2, A	2	3, A	3, A	2
<b>Elective Courses (min. 8 credits required)</b>													
3012, Global Public Health		3, A		3, A	2			2, A	3, A		3, A		3, A
3254, Immunology		3, A		3, A			3, A				3, A		3, A
3305, Medical Microbiology		3, A		3, A		3, A	3, A	3, A	3, A	3, A	3, A	3, A	2
3403, Tropical Diseases		3, A		3, A		3, A	3, A	3, A		3, A	3, A	3, A	3, A
3484, Environmental Microbiology	3, A	3, A		3, A	3, A	3, A	3, A	3, A		3, A	3, A	3, A	
3502, Environmental Health		2	3		3			2		2			3
3753, Geomicrobiology	2		3, A		3, A	2	3, A	3, A		2, A	2	2	

	Core Concepts					Fundamental Skills							
	Model systems for Basic Biology	Integral role in Disease and Human Health	Ubiquitous in nature	Vital Role - Integration of Science and Society	Indispensable role in Environment and Ecology	Nature of Science	Laboratory Skills	Critical thinking	Data Analysis	Problem Solving	Communication	Cooperation	Values
3853, Food Microbiology	1, A	2, A	1	3, A	1			3,A	3, A	3, A			
4252, Cell Culture	3, A	2	2	2	2	2	3, A	2	3, A	3	2	3, A	
4354, Industrial Microbiology				3, A		3, A	3, A	3,A	3, A				
4554, Virology	3, A	3, A	3, A	3, A	3, A	3	3, A	3	3, A	3	3	3, A	
<b>High Impact Courses</b>													
4800, Directed Research	3	3	3			3	3	3	3		3, A		
4830, Directed Readings	3	3	3								3, A		
4991, Microbiology Seminar								3	3		3, A		

1= introduced, 2 = emphasized, 3 = mastered  
A = assessed

*Note<sup>a</sup>*: Define words, letters or symbols used and their interpretation; i.e. or I = Introduced, E = Emphasized, U = Utilized, A = Assessed comprehensively; these are examples, departmental choice of letters/numbers may differ

*Note<sup>b</sup>*: Rows and columns should be transposed as required to meet the needs of each individual department

Additional Information (details about graduating student assessment):

- Students complete an exit interview provided during the GradFest. OIE then provides us with the data. Information gathered is largely student satisfaction and some information about future plans. Response rate is fairly low.

## D-2. High Impact Educational Experiences in the Curriculum

In response to the recent USHE requirement that all students have at least 1 HIEE in the first 30 credit hours and 1 HIEE in the major or minor we are asking programs to map HIEEs to curriculum using a traditional curriculum grid. This helps demonstrate how and where these goals are accomplished.

	Department/Program use of High Impact Educational Experiences							
	<u>HIEE 1: Laboratory</u>	<u>HIEE 2: Undergraduate Research</u>	<u>HIEE 3: Mentored Literature review</u>	<u>HIEE 4: CURE format</u>	<u>HIEE: 5: Coop Work</u>	<u>HIEE 6: SI</u>	<u>HIEE 7: Seminar small group discussion</u>	
Courses								
MICR 2054	X					X		
MICR 3053; 3154; 4054; 4154 – Microbiology Core courses	X							
Other Microbiology Electives	X			X				
MICR 4800 Directed Research	X	X						
MICR 4830 Directed Readings			X					
MICR 4991							X	
MICR 4930					X			

HIEEs include capstone courses or experiences, community-engaged learning, evidence-based teaching practices, internships, project-based learning, study abroad/away, supplemental instruction, team-based learning, undergraduate research, pre-professional/career development experiences. Additional information (HIEE planning, assessment, or other information):

- We have not yet catalogued all of the HIEE that are done within the department. Most courses have a laboratory experience, small-group work, active learning activities, etc. We would be interested in having help in assessing these experiences.
- Student products (poster presentations, papers, etc.) are reported in faculty annual reports.

### E. Assessment Plan

Please update the Assessment Plan for your department displayed on the assessment site: <http://www.weber.edu/portfolio/departments.html>. Keep in mind that reporting will be done biennially instead of annually; that should be reflected in your assessment plan. Please ensure that Gen Ed courses are assessed/reported at least twice during a standard program review cycle.

A complete plan will include a list of courses from which data will be gathered and the schedule, as well as an overview of the assessment strategy the department is using (for example, portfolios, or a combination of Chi assessment data and student survey information, or industry certification exams, etc.), and plans for continuous improvement.

Assessment plan:

Year	2018-19 Program Review	2021-22	2023-24
Core Courses	2054	2054	
		4054	3053
		4154	3154
Electives	4354	3012	3484
		3254	3502
		3305	3753
		3403	3853
		4554	4252
Gen Ed	2054	1113	2054
	WSU 1510	1153	
		WSU 1580	

**F. Report of assessment results for the most previous academic year:**

**A. Evidence of Learning: Courses within the Major**

Course: MICR 4354 Industrial Microbiology and Biotechnology

Semester taught: Spring 2019

Evidence of Learning: Courses within the Major						
Measurable Learning Outcome	Method of Measurement*	Target Performance	Actual Performance	Interpretation of Findings	Action Plan/Use of Results	"Closing the Loop"
Learning Outcome 1: Analyze and articulate open ended problems	Measure 1: Homework and in-class quiz questions forming the basis for discussion	Measure 1: 80% of students will achieve 80% or better	Measure 1: 100% of students met this outcome	Measure 1: Goal achieved	Continue using this approach, perhaps allowing students selected randomly to lead the discussions	
	Measure 2: Participation in the classroom discussion of the problems	Measure 2: 100% of students will participate	Measure 2: 100% of students met this outcome	Measure 2: Goal achieved	Continue using this approach as it reinforces critical thinking skills	
Learning Outcome 2: Design of experiments and analysis of data	Measure 1: Topics for experimental explorations are discussed, experiments planned, data analyzed, lab reports written	Measure 1: 100% participation in design, execution, analysis, and write up with comprehension displayed at each stage	Measure 1: 100% of students met this outcome	Measure 1: Goal achieved	Continue using this approach, perhaps assigning initial development as individual homework. In appropriate instances have students prepare a presentation suitable for a professional meeting.	
	Measure 2: Lab reports	Measure 2: 80% well-written reports, including comprehensive data analysis	Measure 2: 100% of students met this outcome	Measure 2: Goal achieved	Continue using this approach, perhaps allowing collaborations after individual reports are written	
Learning Outcome 3: Ability to research and make a presentation on a topic	Measure 1: Individually evaluated topic selection, annotated bibliography, general outline, detailed outline, and oral presentation with PowerPoint	80% overall score for 80% of students	100% of students met this outcome	Goal achieved	Continue having students perform this exercise	

Additional narrative (optional – use as much space as needed):

MICR 2054 Principles of Microbiology. Spring 2017-2019

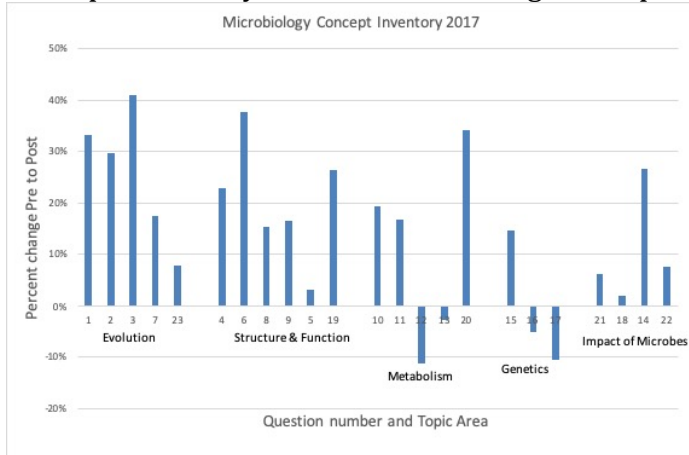
Evidence of Learning: Courses within the Major						
Measurable Learning Outcome	Method of Measurement*	Target Performance	Actual Performance	Interpretation of Findings	Action Plan/Use of Results	"Closing the Loop"
Learning Outcome 1: Model Systems for Biology	Measure 1: Chitester Final Exam selected questions. (3 pooled semesters)	Measure 1: 70% of students will earn 70% or better	Measure 1: 68% of students met target	Measure 1: This measure is close to being met		
	Measure 2: Pre/Post Assessment with Concept Inventory	Measure 2: Class will improve in post survey assessment in all categories	Measure 2: Class improved in 19 of 23 questions, (see graph below) some as much as 40%.	Measure 2: Improvements were seen in each category: Evolution, Structure and function, Metabolism, genetics, and Impact of microbes Those questions that saw a decrease were on content not covered in the course.	Develop a new way to provide this concept inventory. Survey is too difficult to administer and score.	
Learning Outcome 2: Indispensable role in health and disease	Measure 1: Chitester Final Exam selected questions (3 pooled semesters)	Measure 1: 70% of students will earn 70% or better	Measure 1: 67% of students met target	Measure 1: This measure is close to being met.		
Learning Outcome 3: Ubiquitous in Nature	Measure: 1 Chitester Final exam selected questions (3 pooled semesters)	70% of students will earn 70% or better	52% of students met target	This outcome needs to be addressed more specifically and/or assessment measures need to be reassessed.		Provide more "real-world" examples during class. Include more case studies.
Learning Outcome 4: Vital role in Science and Society	Measure 1: Chitester Final exam selected questions (3 pooled semesters)	70% of students will earn 70% or better	61% of students met target	This outcome needs to be more specifically assessed.		Provide more "real-world" examples during class. Include more case studies.
Learning Outcome 5: Laboratory Skills	Lab exam 3: Measures student knowledge of and ability to do specific laboratory skills.	80% of students will have 70% or better in this category	96% of class had 70% or better.	This outcome is being met.		



### Concept Inventory:

A published microbiology concept inventory has been developed (Paustain, 2017). It has been used for two years in MICR 2054 as a pre/post assessment. The outcomes do not align directly to our program outcomes, but do align to AAAS and ASM learning outcomes. Questions are only available from the authors of the study. The assessment is difficult to administer and score, but have provided some interesting information. Below are the results from 2017.

### Concept Inventory Results 2017. Change from pretest to post test.



Paustian, T. et al. 2017. Development, validation and application of the microbiology concept inventory. *Journal of Microbiology & Biology Education*. 18 (3): 1-10.

c. Evidence of Learning: General Education Courses

MICR 2054

Principles of Microbiology

Spring/Su/Fall

Outcome	Content	Assessment	Measure
SS1: Nature of Science	Current research in microbiology, Historical Microbiology, Classical Experiments in Microbiology, Laboratory Exercises.	Exam questions on Chitester selected from exams	70% of students will have 70% or better in this category
SS2: Integration of Science	Role of other disciplines in microbiology, physics, chemistry, biochemistry, and the impact of microbiology on other sciences, ecology, zoology, botany, agriculture, etc.	Exam questions on Chitester selected from exams	70% of students will have 70% or better in this category
SS3: Science and Society	The impact of microorganisms on the health and well-being of humans, especially their ability to cause disease. Vaccines, antibiotics.	Exam questions on Chitester selected from exams	70% of students will have 70% or better in this category
SS4: Problem Solving	Microbiological laboratory techniques that require data collection and analysis, e.g. determining the number of cells per milliliter in a food or water sample.	1. Exam questions on Chitester selected from exams	70% of students will have 70% or better in this category
		2. Lab Exam 3, student use data to calculate the outcomes of microbiological dilutions. They must plan and execute a dilution scheme to quantify bacteria in a sample culture.	80% of students will have 70% or better in this category
		3. Dilution Quiz: 10 questions, take home quiz. Students solve dilution problems	90% of students will have 70% or better in this category
LS1: Levels of Organization	Cell structure and function. Three domains of life. Basics of evolution.	Multiple choice and short answer questions on macromolecules, and cell structure and functions. from exams	70% of students will have 70% or better in this category
LS2: Metabolism and homeostasis	Central metabolic pathways, including anabolism and catabolism, aerobic and anaerobic respiration, and fermentations.	Multiple choice and short answer questions on Glycolysis, Citric Acid Cycle, Electron Transport and related topics. from final exams	70% of students will have 70% or better in this category
LS3: Genetics and Evolution	Central Dogma of biology, DNA replication, transcription, translation, mutations, genetic exchange, and the relationship between genetic change and microbial diversity and evolution. Antibiotic resistance.	Multiple choice and short answer questions on DNA replication and protein synthesis, mutations, and genetic exchange. from exams	70% of students will have 70% or better in this category
LS4: Ecological Interactions	Impact of microbial activity on their environment. Including human-microbe interactions, Metabolic diversity, nitrogen fixation, waste water treatment.	Multiple choice and short answer questions on the interactions between microorganisms and between microorganisms and the human immune system. from final exam	70% of students will have 70% or better in this category

Results by year.

	Percent of students meeting assessment criteria above				
	2015	2016	2017	2018	2019
NS 1 Nature of Science	77%	77%	86%	61%	68%
NS2 Integration of Science	75%	75%	64%	62%	62%
NS 3 Science and Society	90%	90%	84%	92%	75%
NS 4 Problem solving (exams)	62%	62%	57%	67%	66%
(Lab practical)	84%	91%	90%	96%	96%
(Dilution quiz)	90%	90%	na	92%	na
LS 1: Levels of Organization	82%	82%	78%	72%	68%
LS 2: Metabolism and homeostasis	81%	81%	70%	69%	62%
LS 3: Genetics and Evolution	83%	83%	70%	74%	75%
LS 4: Ecological Interactions	70%	62%	57%	61%	66%

WSU 1510: Microbes Rule:

Signature Assignment and GELO Assessment Summary:

The signature assignment rubric:

	Operationalization	Rubric	Instantiation	SCORE
AUDIENCE	This rubric assesses the overall effectiveness of designing a message/argument /critique requested by the assignment (process) to the targeted audience irrespective of the format (written, oral, digital) of the assignment which can have the intended impact on the audience (product)	The audience is defined The message is appropriately geared to the identified /intended audience The writer/speaker/ director shows awareness of audience background, perceptions, and assumptions	No audience specified	
<b>GELO 2</b>	<b>Operationalization</b>	<b>Rubric</b>	<b>Instantiation</b>	<b>SCORE</b>
INTELLECTUAL TOOLS	<b>Problem Solving:</b> Problem-solving is the process of defining a problem based on an open-ended question or a desired goal to be achieved and designing, evaluating, implementing and assessing the impact of strategies to solve the problem.	<b>A problem is defined</b> <b>Strategies to solve the problem are designed and implemented</b> <b>Demonstrates the ability to assess, then evaluate those strategies</b>	The student chooses between measles and influenza vaccine for a population, given financial, social, and emotional constraints	S1: 0 1 S2: 0 1 S3: 0 1 S4: 0 1 S5: 0 1 S6: 0 1 S7: 0 1 S8: 0 1 S9: 0 1 S10: 0 1
<b>GELO 3</b>	<b>Operationalization</b>	<b>Rubric</b>	<b>Instantiation</b>	<b>SCORE</b>
A PERSONAL OR SOCIAL ISSUES OR QUESTION	<b>Well Being:</b> Embraces the importance of the non-cognitive or affective aspects of life including the forms of regulation necessary for being comfortable, healthy, happy, or satisfied	Articulates awareness identifying and managing emotions (or) Identifies components of social well-being including areas of strengths and deficiencies (or) <b>Describes and defends conditions for personal health, happiness or satisfaction</b>	The student defends one vaccination option as optimizing the health and well-being of a populating	S1: 0 1 S2: 0 1 S3: 0 1 S4: 0 1 S5: 0 1 S6: 0 1 S7: 0 1 S8: 0 1 S9: 0 1 S10: 0 1
<b>GELO 4</b>	<b>Operationalization</b>	<b>Rubric</b>	<b>Instantiation</b>	<b>SCORE</b>
CONNECT AND APPLY COURSE CONTENT.	This rubric assesses the meaningful use of course content by identifying both relations between disciplinary content and between the content and individuals' (self or others) experiences in the real world.	Compares (life) experiences and academic knowledge to infer differences, as well as similarities, and acknowledge (intellectual) perspectives other than an individual or a personal one. <b>Shows evidence of connecting examples, facts, concepts, or theories from different content areas of the class.</b>	The student applies microbiological understanding to the issues of defending the optimal vaccination protocol given the circumstances.	S1: 0 1 S2: 0 1 S3: 0 1 S4: 0 1 S5: 0 1 S6: 0 1 S7: 0 1 S8: 0 1 S9: 0 1 S10: 0 1

Summary: Ten SA were assessed. Nine of the ten SA earned the full three-points on three of the GELOs (one student earned 0 points). One GELO was not met, as no audience was specified. That GELO will be added to future assignments.

Additional narrative (optional – use as much space as needed):

- Assessment varies somewhat year to year and instructor to instructor based on content modifications and new exam questions. Efforts to standardize assessments are being made.
- In 2019, additional questions were added to the assessments, which may have decreased the rate of success.

Action Plan:

- This course needs a more streamlined assessment process that works better across instructors and sections, especially for NS1 and NS2. The instructors feel that this objective is met, but it is not evident in the assessment.
- Students generally do well in Science and Society and in demonstrating problem solving on the laboratory exams. They struggle with computational problems on Chitester exams.
- Students also do well on Genetics and Evolution, and usually on Levels of organization.
- Content for Metabolism and homeostasis will be reviewed as students seem to not meet these outcomes regularly.

**Other Materials:**

Summary of assessment from Program Review Self Study:

[Five-year Assessment Summary](#)

Annual assessment reports for each of those years can be found at [http://weber.edu/oie/Department\\_results.html](http://weber.edu/oie/Department_results.html).

The Department has a complete learning grid for the program objectives. Our past 5-year assessment plan has ended, and developing a new plan is our goal for 2019. Several of our upper division courses demonstrated attainment of the learning outcomes during the last five years. We will be working on developing new Departmental assessment tools for each of our upper division courses. Faculty have been experimenting with alternative assessment techniques, but may need additional training to develop and use the tools that are currently available for assessment.

The general education designation was renewed for all three courses in 2016. Each course meets the Natural and Life Science learning outcomes set by the University and the Life Science General Education. The general education courses need to have a standardized assessment to use between sections to make reporting our outcomes more efficient.

Results:

- Our current 5-year assessment plan was finalized in 2012-13 and a new assessment plan will be developed in 2019.
- All general education courses passed renewal in 2016, assessment grids are in the Appendix G.
- The following courses met stated program objectives during the last 5 years of assessment (see grid):
  - 2054
  - 3154
  - 3254
  - 4054

- 4554
- Assessment of other courses was not reported due to unforeseen Departmental factors and personal illness (report of 2016-17 only reported Gen Ed data; report for 2017-18 was not completed)
- We've been experimenting with alternative assessment techniques (Canvas Rubrics, Concept Inventories, Signature Assignments, etc.), but haven't found a straight forward way to assess across multiple sections.

Action plan:

1. Department will update assessment plan, focusing on major's courses, and present that in the 2019 assessment report.
2. Assessment of general education courses will be standardized across instructors, and find better ways to administer assessments to students in online and face-to-face sections.
3. Implement more rubric-graded assignments to assess learning outcomes that are difficult to assess with traditional exams.
4. A published concept inventory will be used as part of the assessment for *Principles of Microbiology* (currently only 1 semester of data is available).
5. Develop more standardized assessment techniques for upper division courses
6. Assessment of the curriculum will be aligned with the AAAS Vision and Change Document. The strategic plan outlines a regular assessment process for the microbiology courses.
7. Continue assessment of graduating students through exit interviews.

Assessment of Graduating Students

The Department of Microbiology has graduated 31% of the College of Science graduates over the past five years (Appendix F). An important aspect of our program mission is to prepare our student for careers in the work force and graduate and professional schools. We also strive to help students graduate in a timely manner.

Each semester graduating microbiology students fill-out an university exit interview which includes questions about career choices and job placement. Data is also collected on College of Science students who are applying to professional schools (Medical, Dental, Physician Assistant etc). It is important to note some students are already working microbiology laboratory jobs before they graduate. We have included tables of several years of data regarding job placement and application/acceptance to professional programs. The data is incomplete because it is mostly based on self-reporting. The summary for placement over the past 5 years is summarized below.

<b>Graduating Microbiology Student Placement (self-reported)</b>	
<b>Placement</b>	<b>Number of students</b>
<b>Medical/Osteopathic School</b>	17
<b>Dental School</b>	17
<b>Physician Assistant</b>	6
<b>Pharmacy School</b>	1
<b>Graduate programs (MA or Ph.D.)</b>	12
<b>Job in microbiology/biotechnology related industry</b>	21

Exit interviews also reflect that students are highly satisfied with their degree and the quality of their experiences in Microbiology.

## Appendix A

Most departments or programs receive a number of recommendations from their Five/Seven-Year Program Review processes. This page provides a means of updating progress towards the recommendations the department/program is acting upon.

Date of Program Review: Spring 2019	Recommendation	Progress Description
Recommendation 1:		
"Closing the Loop" on Assessment	Share information and best practices with new Faculty	
	Reconsider assessment plans and process	
	Faculty training in connecting learning outcomes to assessment. "Close the loop"	
Recommendation 2:		
Curriculum	Review the curriculum for coherency and efficacy; Update course titles	
	Allow students to take more than 3 credits of independent study	
	More student support in MICR 2054	
Recommendation 3: Advising		
	Faculty advisors should receive release time	Occurring at the College Level
Recommendation 4: Faculty	Build a culture of learning; offer professional development opportunities	
(add as needed)	Reconsider how student teaching evaluations are administered and used	
	Add an additional faculty line	

	Faculty workload policies should be addressed for increased scholarship and undergraduate research	Occurring at the College Level
Recommendation 5: Support	Provide professional development to staff and make administrative assistant full time; review salary	
	Address lack of research space for faculty research	

Additional narrative:

These recommendations are from the 2018/2019 program review. No progress information is available at this time.

## Appendix B

Please provide the following information about the full-time and adjunct faculty contracted by your department during the last academic year (summer through spring). Gathering this information each year will help with the headcount reporting that must be done for the final Five Year Program Review document that is shared with the State Board of Regents.

Faculty Headcount	2017-18	2018-19
With Doctoral Degrees (Including MFA and other terminal degrees, as specified by the institution)		
Full-time Tenured	7	7
Full-time Non-Tenured (includes tenure-track)	1	2
Part-time and adjunct	1	
With Master's Degrees		
Full-time Tenured		
Full-time Non-Tenured		
Part-time and adjunct	1	2
With Bachelor's Degrees		
Full-time Tenured		
Full-time Non-tenured		
Part-time and adjunct		
Other		
Full-time Tenured		
Full-time Non-tenured		
Part-time		
<b>Total Headcount Faculty</b>		
Full-time Tenured	7	7
Full-time Non-tenured	1	2
Part-time	2	2



**Appendix C** – alternative format for Evidence of Learning Reporting

Course:

Program Outcome 1	
Aligned Course Outcome(s):	
Method(s) of measurement:	
Target Performance:	
Actual Performance:	
Interpretation/Reflection on findings:	
Action Plan/Use of Results:	
Intended evaluation of plan (closing the loop):	

**Please respond to the following questions.**

- 1) First year student success is critical to WSU's retention and graduation efforts. We are interested in finding out how departments support their first-year students. Do you have mechanisms and processes in place to identify, meet with, and support first-year students? Please provide a brief narrative focusing on your program's support of new students:

a. Any first-year students taking courses in your program(s).

We have first-year students who take our general education courses. Most students enter our program after their first year and/or as transfer students from other institutions.

We do not have specific programs in place for first year students. We do require an advising appointment for all new majors.

b. Students declared in your program(s), whether or not they are taking courses in your program(s)

- 2) A key component of sound assessment practice is the process of 'closing the loop' – that is, following up on changes implemented as a response to your assessment findings, to determine the impact of those changes/innovations. It is also an aspect of assessment on which we need to improve, as suggested in our NWCCU mid-cycle report. Please describe the processes your program has in place to 'close the loop'.

We are trying to address these changes, but could use some guidance on the best ways to collect data for our department and how to follow up on these assessments. We also want to address how we catalogue and assess HIEE, especially undergraduate research experiences.

## Glossary

### Student Learning Outcomes/Measurable Learning Outcomes

The terms ‘learning outcome’, ‘learning objective’, ‘learning competency’, and ‘learning goal’ are often used interchangeably. Broadly, these terms reference what we want students to be able to do AFTER they pass a course or graduate from a program. For this document, we will use the word ‘outcomes’. Good learning outcomes are specific (but not too specific), are observable, and are clear. Good learning outcomes focus on skills: knowledge and understanding; transferrable skills; habits of mind; career skills; attitudes and values.

- Should be developed using action words (if you can see it, you can assess it).
- Use compound statements judiciously.
- Use complex statements judiciously.

### Curriculum Grid

A chart identifying the key learning outcomes addressed in each of the curriculum’s key elements or learning experiences (Suskie, 2019). A good curriculum:

- Gives students ample, diverse opportunities to achieve core learning outcomes.
- Has appropriate, progressive rigor.
- Concludes with an integrative, synthesizing capstone experience.
- Is focused and simple.
- Uses research-informed strategies to help students learn and succeed.
- Is consistent across venues and modalities.
- Is greater than the sum of its parts.

### Target Performance (previously referred to as ‘Threshold’)

The level of performance at which students are doing well enough to succeed in later studies (e.g., next course in sequence or next level of course) or career.

### Actual Performance

How students performed on the specific assessment. An average score is less meaningful than a distribution of scores (for example, 72% of students met or exceeded the target performance, 5% of students failed the assessment).

### Closing the Loop

The process of following up on changes made to curriculum, pedagogy, materials, etc., to determine if the changes had the desired impact.

### Continuous Improvement

An idea with roots in manufacturing, that promotes the ongoing effort to improve. Continuous improvement uses data and evidence to improve student learning and drive student success.

### Direct evidence

Evidence based upon actual student work; performance on a test, a presentation, or a research paper, for example. Direct evidence is tangible, visible, and measurable.

### Indirect evidence

Evidence that serves as a proxy for student learning. May include student opinion/perception of learning, course grades, measures of satisfaction, participation. Works well as a complement to direct evidence.

### HIEE – High Impact Educational Experiences

Promote student learning through curricular and co-curricular activities that are intentionally designed to foster active and integrative student engagement by utilizing multiple impact strategies.