



Program Learning Outcomes and Assessments

Mapped to Courses, Artifacts/Assignments and Standards of Performance

Biology Program

The program outcomes listed below are for students in the Masters of Science in Teaching Learning Biology program.

Program Learning Outcomes	Program Learning Outcomes	Courses	Standards of Performance Evidence: Minimum grade of 80 for each outcome; Overall GPA of 3.00 or above
1	Candidates will understand social constructivism and apply this concept in the classroom for the purpose of improved K12 student engagement.	MET6621 - Teaching Methods; MET6104 - Field Experience II	Teaching Methods Social Constructivism Critical Thinking Assignment; Teaching Methods Differentiation Grading Critical Thinking Assignment; Teaching Methods Classroom Environment Critical Thinking Assignment; Field Experience Video 3
2	Candidates will understand formative and summative assessment and apply this concept in the classroom so that all students can demonstrate mastery of course content.	MET6621 - Teaching Methods; MET6104 - Field Experience II	Teaching Methods Grading Short Answer, Formative Assessment Proctored Exam; Teaching Methods Data Driven Decision Making Proctored Exam; Field Experience Video 2

	Candidates will understand how to deliver appropriate demonstrations, labs (virtual and physical), and apply that understanding in the classroom.	MET6621 - Teaching Methods; MET6104 - Field Experience II	Teaching Methods; Differentiation Critical Thinking Assignment; Teaching Methods Pacing and Planning Critical Thinking Assignment; Teaching Methods Final Self Reflection; Field Experience video 3
4	Candidates will demonstrate an understanding of how to reflect on classroom practice to improve professional practice, and apply that understanding in the classroom.	MET6621 - Teaching Methods; MET6104 - Field Experience II	Teaching Methods Final Self-Reflection; Field Experience Final Self Reflection;
5	Candidates will demonstrate an understanding of how to integrate educational technology effectively to improve student learning in physics, and apply that understanding in the classroom.	MET6621 - Teaching Methods; MET6104 - Field Experience II	Field Experience Final Tech Survey
6	Candidates will demonstrate an understanding of how to use research skills to analyze various teaching methods, and apply that understanding in the classroom.	MET6621 - Teaching Methods; MET6104 - Field Experience II	Teaching Methods Data Driven Decision Making Proctored Exam; Teaching Methods Direct Instruction Proctored Exam; Metacognition and Problem-Solving Short Answer Assignment and Proctored Exam
7	Candidates will understand honors biology: chemistry of life and apply that understanding to solving problems. As a result, they will be able to convey that understanding and the ability to solve problems to their students.	BIOL6841 -Learning & Teaching Honors Biology: Chemistry of Life	Proctored Module Exams 70%; Final Exam 10%; Labs 6%; Short Answer Assignments 6% , Mastery Exercises 6% Reflection Paper 2%
8	Candidates will understand honors biology: Prokaryotes & Eukaryotes and apply that understanding to solving problems. As a result, they will be able to convey that understanding and the ability to solve problems to their students.	BIOL6842 - Learning & Teaching Honors Biology: Prokaryotes & Eukaryotes	Proctored Module Exams 70%; Final Exam 10%; Labs 6%; Short Answer Assignments 6% , Mastery Exercises 6% Reflection Paper 2%
9	Candidates will understand honors biology: evolution and systems of life and apply that understanding to solving problems. As a result, they will be able to convey that understanding and the ability to solve problems to their students.	BIOL6843 - Learning & Teaching Honors Biology: Evolution & Systems of Life	Proctored Module Exams 70%; Final Exam 10%; Labs 6%; Short Answer Assignments 6% , Mastery Exercises 6% Reflection Paper 2%

10	Candidates will understand AP biology 1 including foundations of chemistry, origins and chemistry of life, prokaryotes and eukaryotes, membranes and water potential and apply that understanding to solving problems. As a result, they will be able to convey that understanding and the ability to solve problems to their students.	BIOL6853 - Learning & Teaching PSI AP Biology I	Proctored Module Exams 70%; Final Exam 10%; Labs 6%; Short Answer Assignments 6%, Mastery Exercises 6% Reflection Paper 2%
11	Candidates will understand AP biology 1 including enzymes, photosynthesis, cellular respiration, energy flow & the carbon cycle, and signal transduction and apply that understanding to solving problems. As a result, they will be able to convey that understanding and the ability to solve problems to their students.	BIOL6854 - Learning & Teaching PSI AP Biology II	Proctored Module Exams 70%; Final Exam 10%; Labs 6%; Short Answer Assignments 6%, Mastery Exercises 6% Reflection Paper 2%
12	Candidates will understand AP biology 1 including replication, transcription, translation, cell cycle, meiosis, genetic diversity, and heredity and apply that understanding to solving problems. As a result, they will be able to convey that understanding and the ability to solve problems to their students.	BIOL6855 - Learning & Teaching PSI AP Biology III	Proctored Module Exams 70%; Final Exam 10%; Labs 6%; Short Answer Assignments 6%, Mastery Exercises 6% Reflection Paper 2%
13	Candidates will understand AP biology 1 including biotechnology, evolution, population genetics, phylogeny, biosphere, ecosystems, populations & communities and biodiversity & disruptions and apply that understanding to solving problems. As a result, they will be able to convey that understanding and the ability to solve problems to their students.	BIOL6856 - Learning & Teaching PSI AP Biology IV	Proctored Module Exams 70%; Final Exam 10%; Labs 6%; Short Answer Assignments 6%, Mastery Exercises 6% Reflection Paper 2%