

	Student Learning Outcomes (performance, knowledge, attitudes)	Related College/ University Goals	Method of Assessment	Who Assessed	When Assessed	Standard of Mastery Criterion of Achievement	What is Hoped to Be Learned?
#1	Students should have an understanding of the basic body of knowledge of astronomy.	C1, U1	Student Surveys	Astronomy Majors	Spring Semester	≥ 70% of respondents will rate ≥ 70% satisfaction	Degree of student confidence and competence in astronomy.
#2	Students should have a working knowledge of topics in general physics and required advanced physics courses.	C1, U1	Student Surveys	Astronomy Majors	Spring Semester	≥ 70% of respondents will rate ≥ 70% satisfaction	Degree of student confidence and competence in physics.
#3	Students should be able to utilize mathematics up through calculus and differential equations.	C1, U1	Student Surveys	Astronomy Majors	Spring Semester	≥ 70% of respondents will rate ≥ 70% satisfaction	Degree of student confidence and competence in mathematics.
#4	Students should be able to communicate their ideas in writing.	C1, U1	Student Surveys	Astronomy Majors	Spring Semester	≥ 70% of respondents will rate ≥ 70% satisfaction	Degree of student confidence and competence in writing.
#5	Students should be able to communicate their ideas orally.	C1, U1	Student Surveys	Astronomy Majors	Spring Semester	≥ 70% of respondents will rate ≥ 70% satisfaction	Degree of student confidence and competence in oral communication.
#6	Students should acquire general problem-solving skills.	C1, U1	Student Surveys	Astronomy Majors	Spring Semester	≥ 70% of respondents will rate ≥ 70% satisfaction	Degree of student confidence and competence in problem solving.
#7	Students should be able to employ a variety of computational tools to solve advanced problems.	C1, U1	Student Surveys	Astronomy Majors	Spring Semester	≥ 70% of respondents will rate ≥ 70% satisfaction	Degree of student confidence and competence in computing.
#8	Students should understand basic observational techniques.	C1, U1	Student Surveys	Astronomy Majors	Spring Semester	≥ 70% of respondents will rate ≥ 70% satisfaction	Degree of student confidence and competence in observing.
#9	Students should understand methods of statistical data reduction.	C1, U1	Student Surveys	Astronomy Majors	Spring Semester	≥ 70% of respondents will rate ≥ 70% satisfaction	Degree of student confidence and competence in data reduction.
#10	Students should develop and maintain a positive attitude toward their astronomy education at MSU.		Student Surveys; Alumni Surveys	Astronomy Majors & Alumni	Spring Semester; Program Review Years	≥ 70% of respondents will rate ≥ 70% satisfaction	Student/alumni attitudes toward the program.
#11	Students should be prepared for advanced study in astronomy or astrophysics. (B.S. only)	C1, U1	Grad School Apps; Student Surveys; Alumni Surveys	Astronomy Majors & Alumni	Senior Yr; Spring Semester; Program Review Years	≥ 70% of respondents will rate ≥ 70% satisfaction	Degree of student confidence and competence in preparation for graduate studies.
#12	Students should be well prepared for careers in astronomy, math, physics or related fields.	C1, U1	Student Surveys; Alumni Surveys	Astronomy Majors & Alumni	Spring Semester; Program Review Years	≥ 70% of respondents will rate ≥ 70% satisfaction	Degree of student confidence and competence in preparation for a career in science.

CSET Goal:

C1 *"Providing degree programs that give students in-depth knowledge, inspire critical thinking skills, problem solving skills, oral and written communication skills and laboratory skills."*

University Goal:

U1 *"The University will prepare students for careers and for life-long learning by providing a clearly defined general education program and focused undergraduate pre-professional, professional, and liberal arts programs."*