

Part 2 – Comprehensive Program Review

Fall 2010

Program Name:

Astronomy

A. PAST: Review of Program Performance, Objectives, and Outcomes for the Three Previous Academic Years: 2007-08, 2008-09, 2009-10

1. List the objectives developed for this program during the last comprehensive program review.

There were no program-specific past objectives identified in the last comprehensive program review.

2. Present program performance data in tabular form for the previous three years that demonstrates the program's performance toward meeting the previous objectives. Include the following standard program performance metrics as well additional program specific metrics, if any.
 - a. For teaching programs this data should include at least the following: Enrollment at census, number of sections, fill rate, retention rate, success rate, and grade distribution for each course in the program, during each semester and session of the previous three academic years. In addition, the Full Time Equivalent Faculty (FTEF) and Full Time Equivalent Students (FTES) and the ratio of FTES per FTEF should be presented for the program for each semester and session.

Data are presented in tabular form in separate file.

3. Present student learning or service area outcomes data that demonstrate the program's continuous educational and/or service quality improvement. Include the following standard information and metrics as well as additional program specific metrics, if any.

List the program level outcomes, goals or objectives and show how these support the Institutional Student Learning Outcomes. Identify the method(s) of assessment used for each of the program level outcomes. Provide a summary of the outcome data for the program, including course and program level data as appropriate.

There are currently no program-level SLOs for the General Science and Physical Science majors.

An initial set of Student Learning Outcomes have been identified for ASTR100:

SLO #1: Comprehend the working of the seasons around the Earth and their intrinsic cause.

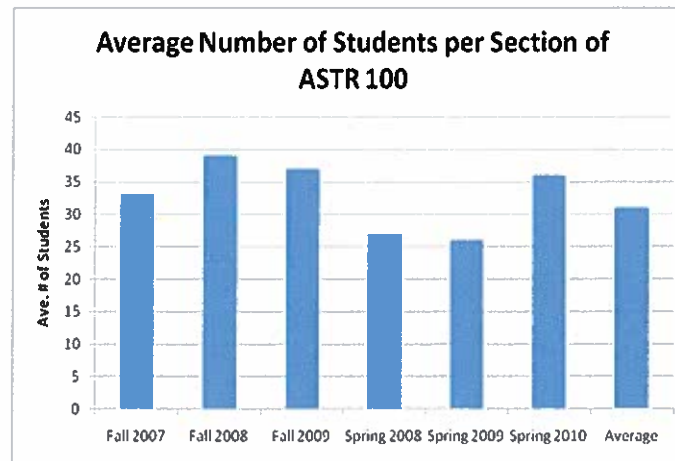
SLO #2: Determine the phases of the Moon based on its location with respect to the Earth and the Sun.

SLO #3: Conceptualize both in physical size and in time of formation, the differences between the Solar System and the Universe.

Assessment of these SLOs are based primarily through exam questions.

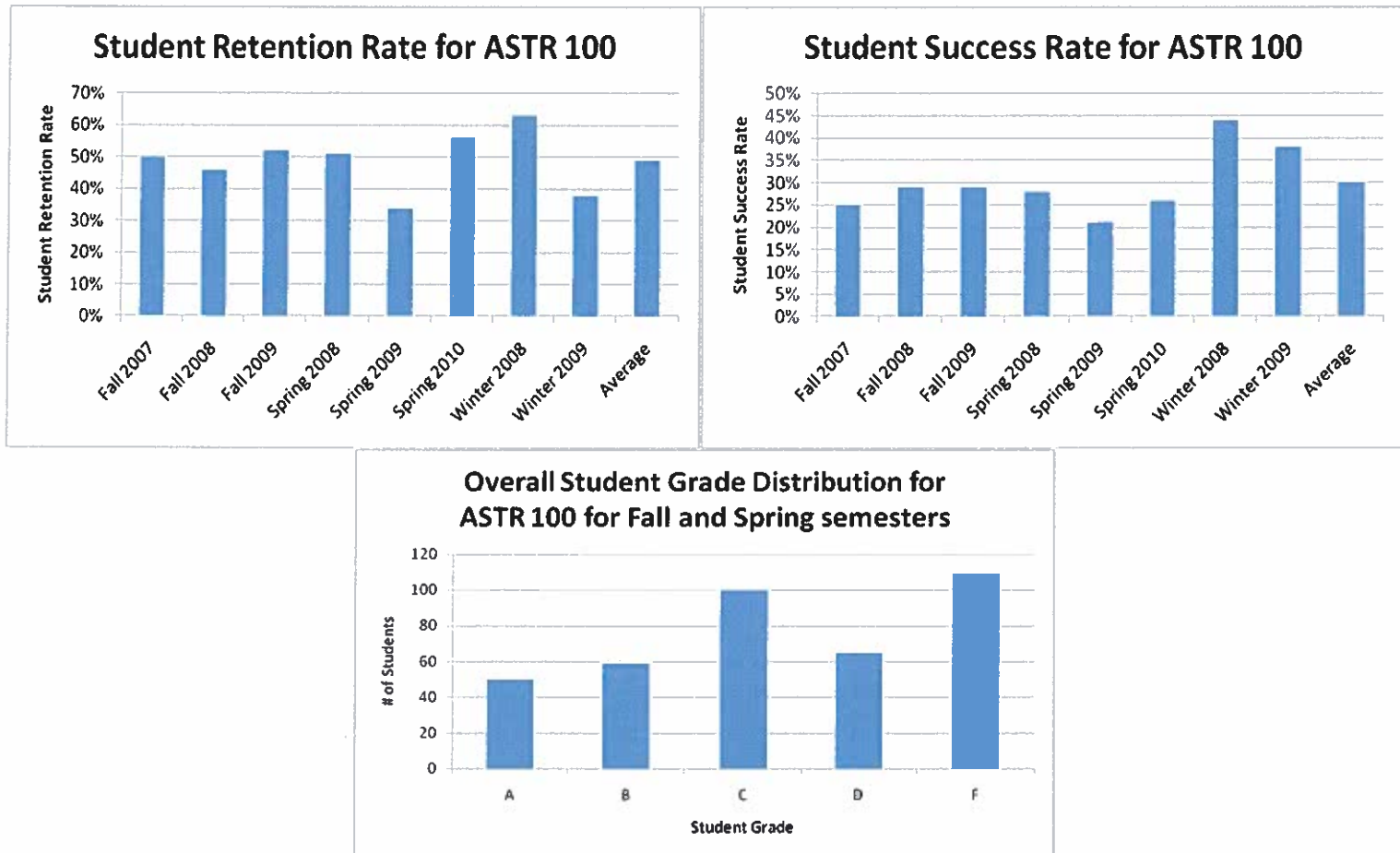
4. Analyze the data presented visually (graphs, diagrams, etc.) and verbally (text) as appropriate, present any trends, anomalies, and conclusions. Explain the program's success or failure in meeting the objectives presented above in item one. Explain the ways that the program utilized the student learning or service area outcome data presented in item three to improve the program (changes to curriculum, instructional methodology, support services, etc.)

Enrollment & Access



Four sections of ASTR 100 have been offered each semester, which includes one section being offered in the evening. Fill rates for day time sections are close to or at 100%, whereas late afternoon sections tend to vary greatly, as evident in the lower average number of students in the Spring 2008 and 2009 semesters compared to Spring 2010 semester. The evening section, while not always at 100%, does have high demand and is consistently above 80% fill rate. While not always at maximum capacity, the evening section provides for the demand by non-traditional students, access which is important for IVC to provide.

Retention and Student Success



The Student Retention and Student Success Rates average 50% and 28% respectively, with the Spring 2009 semester being below the norm. This relatively large difference between the Retention and Success rates results from a significant number of students who remained enrolled in the course despite having a non-passing grade for securing financial aid benefits for the semester. While the 50% retention rate may be considered low, the instructor has more than 11 years of teaching experience at 4-year universities and holds to those standards. During the six regular Spring and Fall semesters, a total of 209 passing grades (A – C) were given with 50 A grades (24% of passing grades) and 59 B grades (28% of passing grades). Those students willing to make the effort can succeed. As there are no prerequisites for ASTR100, a large number of students lacking the study skills and/or the reading and writing skills enroll in the course and are unable to complete the course work at the necessary level for success and find it necessary to withdraw from the class.

B. PRESENT: Snapshot of the State of the Program in the Current Semester: Fall 2010

1. Give a verbal description of the program as it exists at the present time. Include information on current staffing levels, current student enrollments, student learning or service area outcome implementation, number of majors, and/or other data as appropriate.

At the present time, a single faculty member is teaching the four sections of ASTR 100 offered each semester. Student demand for ASTR 100 is high as it is a popular choice to fulfill the general education requirement as well as simply an elective course. At the moment, student demand is being met, except during “prime” meeting times when students are not only selecting a course, but also trying to make a convenient schedule. Without sacrificing the evening section, additional morning/early afternoon sections cannot be offered without a part-time instructor. Attempts to hire a part-time instructor in astronomy have been unsuccessful. Given the present financial concerns, it is not expected that a part-time instructor would be hired during the next few years even if a qualified candidate were identified.

There is no certificate or degree offered in the area of astronomy.

2. Verbally describe any outside factors that are currently affecting the program. (For example: changes in job market, changing technologies, changes in transfer destinations, etc.)

None at this time.

3. List any significant issues or problems that the program is immediately facing.

None at this time.

C. FUTURE: Program Objectives for the Next Three Academic Years: 2010-11, 2011-12, 2012-13

1. Identify the program objectives for the next three academic years, making sure these objectives are consistent with the college’s Educational Master Plan goals. Include how accomplishment is to be identified or measured and identify the planned completion dates. If any objectives are anticipated to extend beyond this three-year period, identify how much is to be accomplished by the end of this review period and performance measures.

The primary objective for the Astronomy program is the incorporation of the new planetarium into the classroom curriculum of ASTR100. This is both a learning process and a designing process. It is expected to be an evolving and continuous process over the next three academic years. This will be measured by the number of times per course we meet in the planetarium. (Educational Master Plan Goal #1)

A secondary objective for the Astronomy program is the incorporation of a laboratory component to ASTR100. To show that this is accomplished, the lab section would be listed in the college catalog. We hope to have this incorporated by the 2013-2014 academic year. (Educational Master Plan Goal #1)

2. Identify how student learning or service area outcomes will be expanded and fully implemented into the program. Include a progress timeline for implementation and program improvement.

Student Learning Outcomes identification and assessment schedule for ASTR100:

Fall 2011	Assessment of SLO #1 completed (data from Spring 2011 semester). Data collected for SLO #2 analysis. SLO #4 identified
Spring 2012	Implementation of instructional changes based on assessment of SLO #1. Assessment of SLO #2 completed. Data collected for SLO #1 second assessment. Data collected for SLO #3 analysis.
Fall 2012	Implementation of instructional changes based on assessment of SLO #2. Data collected for SLO #2 second assessment. Data collected for SLO #4 analysis. Assessment of SLO # 1 and SLO #3 completed. SLO #5 identified
Spring 2013	Implementation of instructional changes based on assessment of SLO #1 and #3. Data collected for continued assessment of SLO #1. Data collected for SLO #3 second assessment. Assessment of SLO #2 and SLO #4 completed.
Fall 2013	Implementation of instructional changes based on assessment of SLO #2 and SLO #4. Data collected for continued assessment of SLO #2. Data collected for SLO #4 second analysis. Data collected for SLO #5 analysis. Assessment of SLO # 1 and SLO #3 completed. SLO #6 identified
Spring 2014	Implementation of instructional changes based on assessment of SLO #1 and #3. Data collected for continued assessment of SLO #1 and #3. Continuing assessment of SLO #2 and SLO #4 completed. Initial assessment of SLO #5 completed.

We plan to develop program-level SLOs for the General Science and Physical Science majors in the 2010-2011 academic year. SLOs will be implemented in the Fall 2011 semester, and data will be analyzed and used for improvements.

3. **Identify any resources needed to accomplish these objectives. Identify any obstacles toward accomplishment and the plan to surmount these obstacles.**

The only constraint on the integration of the planetarium into ASTR100 is time available from the instructor for this task.

While the development of a laboratory component to ASTR100 is desirable, both time and financial constraints will delay the design and implementation of such a lab section.

4. **Identify any outside factors that might influence your program during the next three years.**

Outreach programs involving planetarium tours and shows are organized and presented by the Communications Office and the IVC Foundation. These are factors that are outside the program, which can cause scheduling conflicts with the ASTR100 classes.

**Program Review - Astronomy Program
Enrollment Count at Census**

Course	Fall				Spring				Summer				Winter				Grand Total
	2007	2008	2009	Total	2008	2009	2010	Total	2007	2008	2009	Total	2008	2009	2010	Total	
ASTR 100	130	156	146	432	107	102	144	353					16	16		32	817
Total	130	156	146	432	107	102	144	353					16	16		32	817

**Astronomy Program
Number of Sections**

Course	Fall				Spring				Summer				Winter				Grand Total
	2007	2008	2009	Total	2008	2009	2010	Total	2007	2008	2009	Total	2008	2009	2010	Total	
ASTR 100	4	4	4	12	4	4	4	12					1	1		2	26
Total	4	4	4	12	4	4	4	12					1	1		2	26

**Astronomy Program
Average Number of Students per Section**

Course	Fall				Spring				Summer				Winter				Grand Total
	2007	2008	2009	Total	2008	2009	2010	Total	2007	2008	2009	Total	2008	2009	2010	Total	
ASTR 100	33	39	37	36	27	26	36	30					16	16		16	31
Avg.	33	39	37	36	27	26	36	30					16	16		16	31

**Astronomy Program
Student Success Rate**

Course	Fall				Spring				Summer				Winter				Grand Total
	2007	2008	2009	Total	2008	2009	2010	Total	2007	2008	2009	Total	2008	2009	2010	Total	
ASTR 100	25%	29%	29%	27%	28%	21%	26%	25%					44%	38%		41%	30%
Avg.	25%	29%	29%	27%	28%	21%	26%	25%					44%	38%		41%	30%

**Astronomy Program
Student Retention Rate**

Course	Fall				Spring				Summer				Winter				Grand Total
	2007	2008	2009	Total	2008	2009	2010	Total	2007	2008	2009	Total	2008	2009	2010	Total	
ASTR 100	50%	46%	52%	49%	51%	34%	56%	47%					63%	38%		50%	49%
Avg.	50%	46%	52%	49%	51%	34%	56%	47%					63%	38%		50%	49%

Grade Distribution

Program	Term	Sem.	Yr.	Course	A	B	C	D	F	CR	P	Other	W	Total	Success Rate	Retention Rate
ASTR	200810	Fall	2007	ASTR100	7	6	19	10	23			0	65	130	24.6%	50.0%
ASTR	200815	Win.	2008	ASTR100	1	4	2	2	1			0	6	16	43.8%	62.5%

ASTR	200820	Spr.	2008	ASTR100	9	8	13	7	18			0	52	107	28.0%	51.4%
ASTR	200910	Fall	2008	ASTR100	7	15	23	7	20			0	84	156	28.8%	46.2%
ASTR	200915	Win.	2009	ASTR100	3	3						0	10	16	37.5%	37.5%
ASTR	200920	Spr.	2009	ASTR100	8	7	7	6	7			0	68	103	21.4%	34.0%
ASTR	201010	Fall	2009	ASTR100	11	15	16	9	25			0	70	146	28.8%	52.1%
ASTR	201020	Spr.	2010	ASTR100	8	8	22	26	16			0	64	144	26.4%	55.6%

**Astronomy Program
Full Time Equivalent Student (FTEs)**

Course	Fall				Spring				Summer				Winter				Grand Total
	2007	2008	2009	Total	2008	2009	2010	Total	2007	2008	2009	Total	2008	2009	2010	Total	
ASTR 100	13.5	16.2	15.1	44.8	11.1	10.6	14.9	36.6					1.6	1.7		3.3	84.6
Total	13.5	16.2	15.1	44.8	11.1	10.6	14.9	36.6					1.6	1.7		3.3	84.6

**Astronomy Program
Full Time Equivalent Faculty (FTEf)**

Course	Fall				Spring				Summer				Winter				Grand Total
	2007	2008	2009	Total	2008	2009	2010	Total	2007	2008	2009	Total	2008	2009	2010	Total	
ASTR 100	0.80	0.80	0.80	2.40	0.80	0.80	0.80	2.40					0.20	0.20		0.40	5.20

Total	0.80	0.80	0.80	2.40	0.80	0.80	0.80	2.40					0.20	0.20		0.40	5.20
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**Astronomy Program
FTEs per FTEf**

Course	Fall				Spring				Summer				Winter				Grand Total
	2007	2008	2009	Total	2008	2009	2010	Total	2007	2008	2009	Total	2008	2009	2010	Total	
ASTR 100	16.8	20.2	18.9	18.7	13.9	13.2	18.7	15.2					8.0	8.4		8.2	16.3
Avg.	16.8	20.2	18.9	18.7	13.9	13.2	18.7	15.2					8.0	8.4		8.2	16.3