Astronomy Program Review
2012-2013

1. Program/Department Description

1A. Description

Astronomers use the principles of physics and mathematics to answer questions about the fundamental nature of the universe and about celestial bodies such as the sun, moon, planets, and stars. They may apply their knowledge to problems in navigation and space flight.

Degrees/Certificates

Program's courses are designed to articulate to UC and CSU for transfer students. No degrees or certificates are awarded.

1B. 2012-2013 Estimated Costs (Certificate of Achievement ONLY)

Required for Gainful Employment regulations.

	Cost		Cost		Cost		Cost
Enrollment Fees		Enrollment Fees					
Books/ Supplies		Books/ Supplies					
Total		Total		Total		Total	

1C. Criteria Used for Admission

Open admission with no pre-requisites

1D. College Vision

Ventura College will be a model community college known for enhancing the lives and economic futures of its students and the community.

1E. College Mission

Ventura College, one of the oldest comprehensive community colleges in California, provides a positive and accessible learning environment that is responsive to the needs of a highly diverse student body through a varied selection of disciplines, learning approaches and teaching methods including traditional classroom instruction, distance education, experiential learning, and co-curricular activities. It offers courses in basic skills; programs for students seeking an associate degree, certificate or license for job placement and advancement; curricula for students planning to transfer; and training programs to meet worker and employee needs. It is a leader in providing instruction and support for students with disabilities. With its commitment to workforce development in support of the State and region's economic viability, Ventura

College takes pride in creating transfer, career technical and continuing education opportunities that promote success, develop students to their full potential, create lifelong learners, enhance personal growth and life enrichment and foster positive values for successful living and membership in a multicultural society. The College is committed to continual assessment of learning outcomes in order to maintain high quality courses and programs. Originally landscaped to be an arboretum, the College has a beautiful, park-like campus that serves as a vital community resource.

1F. College Core Commitments

Ventura College is dedicated to following a set of enduring Core Commitments that shall guide it through changing times and give rise to its Vision, Mission and Goals.

- Student Success
- Respect
- Integrity
- Quality
- Collegiality
- Access
- Innovation
- Diversity
- Service
- Collaboration
- Sustainability
- Continuous Improvement

1G. Program/Department Significant Events (Strengths and Successes)

Introductory Astronomy provides (particularly non-science) students with a highly motivational and math-accessible science course. The format of the course allows new discoveries in astronomy to be immediately incorporated into the course. This is particularly true for the on-line version which does not rely on a printed text but on a CD in which new topics can be incorporated almost immediately. Each semester the CD contents are evaluated and modified to take into account recent advances in astronomy. The D2L course site also allows the instructor to quickly focus on any new astronomical events as a class discussion. We attribute the high level of motivation and student success to this approach to teaching astronomy.

An ebook version of the text was introduced into the curriculum in FY12.

K. Organizational Structure

President: Robin Calote
Executive Vice President: Ramiro Sanchez
Dean: Currently being Staffed
Department Chair: Dr. Steve Quon

Instructors and Staff

Name	**Steve Quon**
Classification	Professor
Year Hired	1991
Years of Work-Related Experience	
Degrees/Credentials	B.S., M.A., PhD (Physics)

Name	**Colin Terry**
Classification	Professor (Part-Time)
Year Hired	1987
Years of Work-Related Experience	
Degrees/Credentials	M.S., PhD (Physics)

Name	**Jeffrey Molony**
Classification	Instructor (Part-Time)
Year Hired	2012
Years of Work-Related Experience	
Degrees/Credentials	M.S. (Physics), PhD (Mathematics)

Name	**Orlando Warren**
Classification	Instructor (Part-Time)
Year Hired	2011
Years of Work-Related Experience	
Degrees/Credentials	B.S., M.S. (Physics)

Name	**Stephan Lovstedt**
Classification	Instructor (Part-Time)
Year Hired	2012
Years of Work-Related Experience	
Degrees/Credentials	B.S., M.S. (Physics)

Astronomy Program Review
2012-2013

2. Performance Expectations

2A. Student Learning Outcomes

2A1. 2012-2013 - *Institutional* Student Learning Outcomes

1. Communication - written, oral and visual
2. Reasoning - scientific and quantitative
3. Critical thinking and problem solving
4. Information literacy
5. Personal/community awareness and academic/career responsibilities

2A2. 2012-2013- *Program*Level Student Learning Outcomes

For programs/departments offering degrees and/or certificates

1. N.A.

2.

2A3. 2012-2013 - *Course* Level Student Learning Outcomes

Attached to program review (See appendices).

2B. 2012-2013 Student SUCCESS Outcomes

1. The program will increase its retention rate from the average of the **program's** prior three-year retention rate. The retention rate is the number of students who finish a term with any grade other than W or DR divided by the number of students at census.
2. The program will increase its retention rate from the average of the **college's** prior three-year retention rate. The retention rate is the number of students who finish a term with any grade other than W or DR divided by the number of students at census.
3. The program will increase the student success rates from the average of the **program's** prior three-year success rates. The student success rate is the percentage of students who receive a grade of c or better.
4. The program will increase the student success rates from the average of the **college's** prior three-year success rates. The student success rate is the percentage of students who receive a grade of C or better.

2C. 2012-2013 Program OPERATING Outcomes

The program will maintain WSCH/FTEF above the 525 goal set by the district.

2D. Mapping of Student Learning Outcomes - *Refer to TracDat*

3. Operating Information

3A. Productivity Terminology Table

Sections	A credit or non-credit class. Does not include not-for-credit classes (community education).
Census	Number of students enrolled at census (typically the 4th week of class for fall and spring).
FTES	Full Time Equivalent Students A student in the classroom 15 hours/week for 35 weeks (or two semesters) = 525 student contact hours. 525 student contact hours = 1 FTES. Example: 400 student contact hours = 400/525 = 0.762 FTES. The State apportionment process and District allocation model both use FTES as the primary funding criterion.
FTEF	Full Time Equivalent Faculty A faculty member teaching 15 units for two semesters (30 units for the year) = 1 FTE. Example: a 6 unit assignment = 6/30 = 0.20 FTEF (annual). The college also computes semester FTEF by changing the denominator to 15 units. However, in the program review data, all FTE is annual. FTEF includes both Full-Time Faculty and Part-Time Faculty. FTEF in this program review includes faculty assigned to teach extra large sections (XL Faculty). This deviates from the prior practice of not including these assignments as part of FTEF. However, it is necessary to account for these assignments to properly represent faculty productivity and associated costs.
Cross Listed FTEF	FTEF is assigned to all faculty teaching cross-listed sections. The FTEF assignment is proportional to the number of students enrolled at census. This deviates from the practice of assigning load only to the primary section. It is necessary to account for these cross-listed assignments to properly represent faculty productivity and associated costs.
XL FTE	Extra Large FTE: This is the calculated assignment for faculty assigned to extra large sections (greater than 60 census enrollments).The current practice is not to assign FTE. Example: if census>60, 50% of the section FTE assignment for each additional group of 25 (additional tiers).
WSCH	Weekly Student Contact Hours The term "WSCH" is used as a total for weekly student contact hours AND as the ratio of the total WSCH divided by assigned FTEF.

	Example: 20 sections of 40 students at census enrolled for 3 hours per week taught by 4.00 FTEF faculty. (20 x 40 x 3) = 2,400 WSCH / 4.00 FTEF = 600 WSCH/FTEF.
WSCH to FTES	Using the example above: 2,400 WSCH x 35 weeks = 84,000 student contact hours = 84,000 / 525 = 160 FTES (see FTES definition). Simplified Formulas: FTES = WSCH/15 or WSCH = FTES x 15
District Goal	Program WSCH ratio goal. WSCH/FTEF The District goal was set in 2006 to recognize the differences in program productivity.

3B: Student Success Terminology

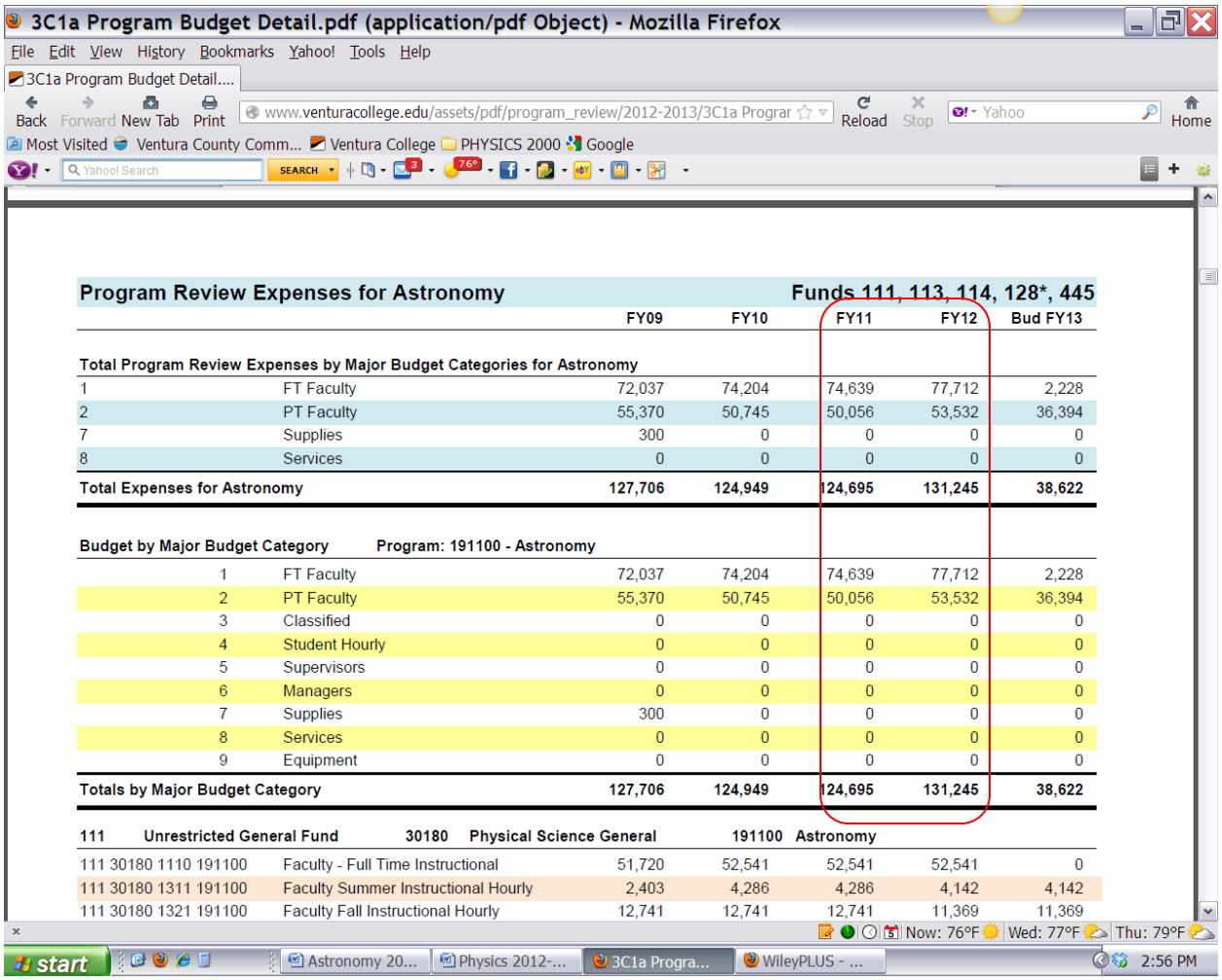
Census	Number of students enrolled at Census (typically the 4th week of class for fall and spring). Census enrollment is used to compute WSCH and FTES for funding purposes.
Retain	Students completing the class with any grade other than W or DR divided by Census Example: 40 students enrolled, 5 students dropped prior to census,35 students were enrolled at census, 25 students completed the class with a grade other than W or DR: Retention Rate = 25/35 = 71%
Success	Students completing the class with grades A, B, C, CR or P divided by Census Excludes students with grades D, F, or NC.

Program specific data was provided in Section 3 for all programs last year. This year, please refer to the data sources available at
http://www.venturacollege.edu/faculty_staff/academic_resources/program_review.shtml

In addition, the 2011-2012 program review documents will provide examples of last year's data and interpretations.

3C: 2012 - 2013 Please provide program interpretation for the following:

3C1: Interpretation of the Program Budget Information



3C1a Program Budget Detail.pdf (application/pdf Object) - Mozilla Firefox

Program Review Expenses for Astronomy — Funds 111, 113, 114, 128*, 445

		FY09	FY10	FY11	FY12	Bud FY13
Total Program Review Expenses by Major Budget Categories for Astronomy						
1	FT Faculty	72,037	74,204	74,639	77,712	2,228
2	PT Faculty	55,370	50,745	50,056	53,532	36,394
7	Supplies	300	0	0	0	0
8	Services	0	0	0	0	0
Total Expenses for Astronomy		**127,706**	**124,949**	**124,695**	**131,245**	**38,622**

Budget by Major Budget Category	**Program: 191100 - Astronomy**					
1	FT Faculty	72,037	74,204	74,639	77,712	2,228
2	PT Faculty	55,370	50,745	50,056	53,532	36,394
3	Classified	0	0	0	0	0
4	Student Hourly	0	0	0	0	0
5	Supervisors	0	0	0	0	0
6	Managers	0	0	0	0	0
7	Supplies	300	0	0	0	0
8	Services	0	0	0	0	0
9	Equipment	0	0	0	0	0
Totals by Major Budget Category		**127,706**	**124,949**	**124,695**	**131,245**	**38,622**

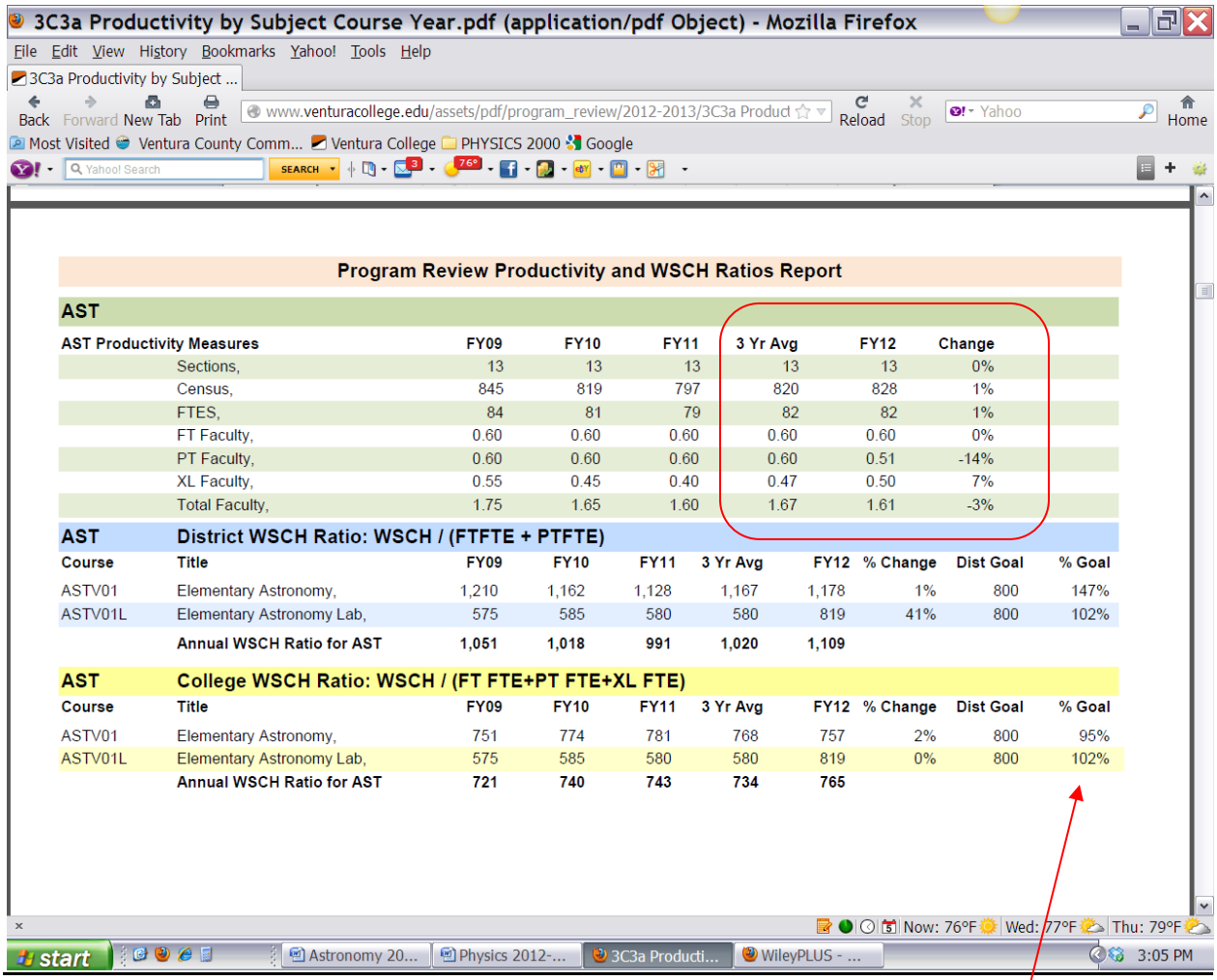
111	**Unrestricted General Fund**	**30180**	**Physical Science General**	**191100**	**Astronomy**				
111 30180 1110 191100	Faculty - Full Time Instructional				51,720	52,541	52,541	52,541	0
111 30180 1311 191100	Faculty Summer Instructional Hourly				2,403	4,286	4,286	4,142	4,142
111 30180 1321 191100	Faculty Fall Instructional Hourly				12,741	12,741	12,741	11,369	11,369

Budget for Astronomy remained stable in FY 12 relative to FY11. Prior to Fall 2012, astronomy has been taught by 1 F/T physics/astronomy faculty plus 3 additional P/T faculty. No additional sections were added year over year.

3C2: Interpretation of the Program Inventory Information

Astronomy has no associated inventory

3C3: Interpretation of the Program Productivity Information



Program Review Productivity and WSCH Ratios Report

AST

AST Productivity Measures	FY09	FY10	FY11	3 Yr Avg	FY12	Change
Sections,	13	13	13	13	13	0%
Census,	845	819	797	820	828	1%
FTES,	84	81	79	82	82	1%
FT Faculty,	0.60	0.60	0.60	0.60	0.60	0%
PT Faculty,	0.60	0.60	0.60	0.60	0.51	-14%
XL Faculty,	0.55	0.45	0.40	0.47	0.50	7%
Total Faculty,	1.75	1.65	1.60	1.67	1.61	-3%

AST District WSCH Ratio: WSCH / (FTFTE + PTFTE)

Course	Title	FY09	FY10	FY11	3 Yr Avg	FY12	% Change	Dist Goal	% Goal
ASTV01	Elementary Astronomy,	1,210	1,162	1,128	1,167	1,178	1%	800	147%
ASTV01L	Elementary Astronomy Lab,	575	585	580	580	819	41%	800	102%
	Annual WSCH Ratio for AST	**1,051**	**1,018**	**991**	**1,020**	**1,109**			

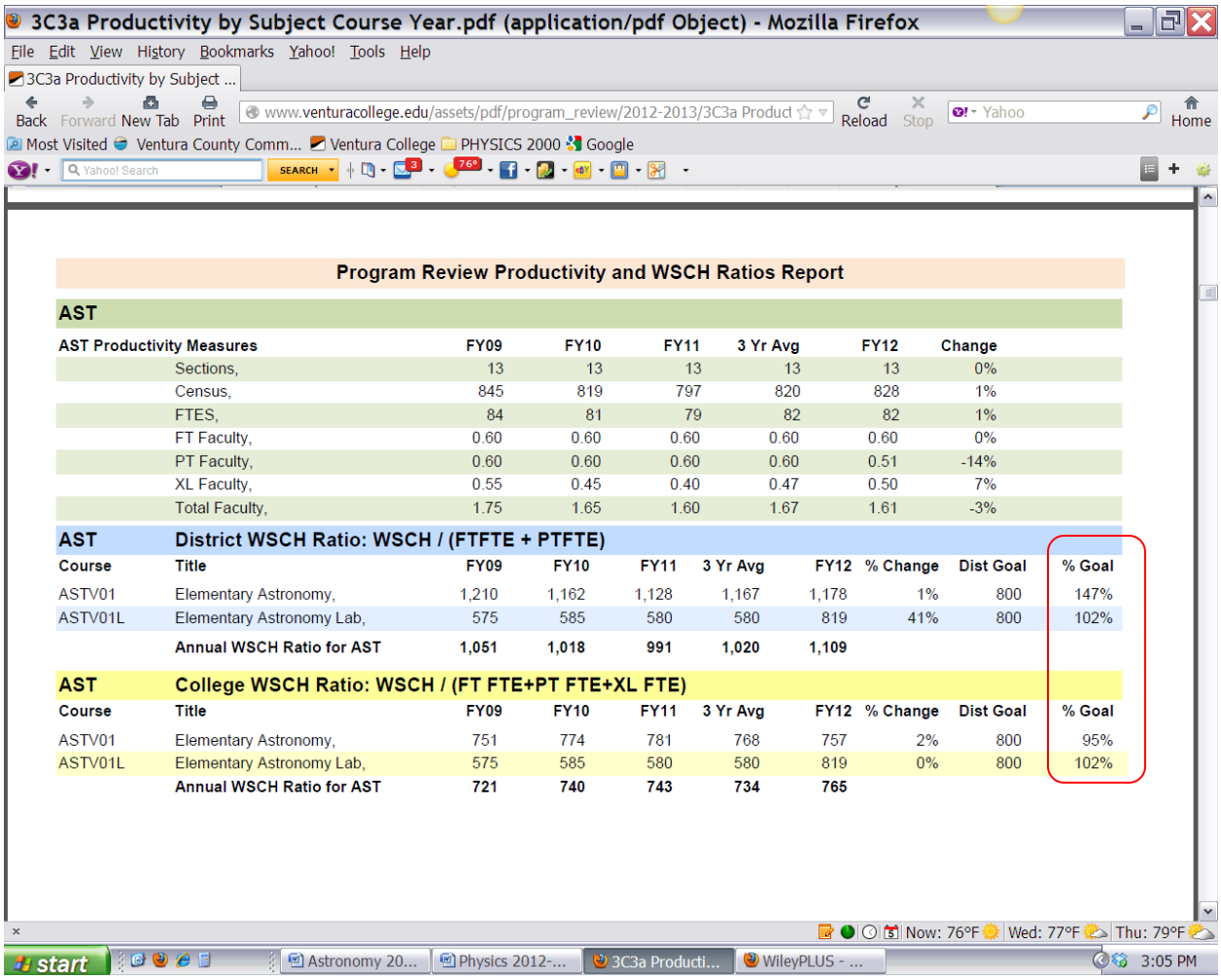
AST College WSCH Ratio: WSCH / (FT FTE+PT FTE+XL FTE)

Course	Title	FY09	FY10	FY11	3 Yr Avg	FY12	% Change	Dist Goal	% Goal
ASTV01	Elementary Astronomy,	751	774	781	768	757	2%	800	95%
ASTV01L	Elementary Astronomy Lab,	575	585	580	580	819	0%	800	102%
	Annual WSCH Ratio for AST	**721**	**740**	**743**	**734**	**765**			

1. There were no significant changes in the overall Astronomy Productivity Measure for FY12 compared to the 3 preceding year average beyond what could be expected from variances in fiscal accounting.

2. There is a drop in WSCH Ratios when comparing the District WSCH Ratios (147%) to the College WSCH Ratios (95%). This is due to XL AST lecture sections.

3C4: Interpretation of the Program Course Productivity Information



Program Review Productivity and WSCH Ratios Report

AST

AST Productivity Measures	FY09	FY10	FY11	3 Yr Avg	FY12	Change
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FT Faculty,	0.60	0.60	0.60	0.60	0.60	0%
PT Faculty,	0.60	0.60	0.60	0.60	0.51	-14%
XL Faculty,	0.55	0.45	0.40	0.47	0.50	7%
Total Faculty,	1.75	1.65	1.60	1.67	1.61	-3%

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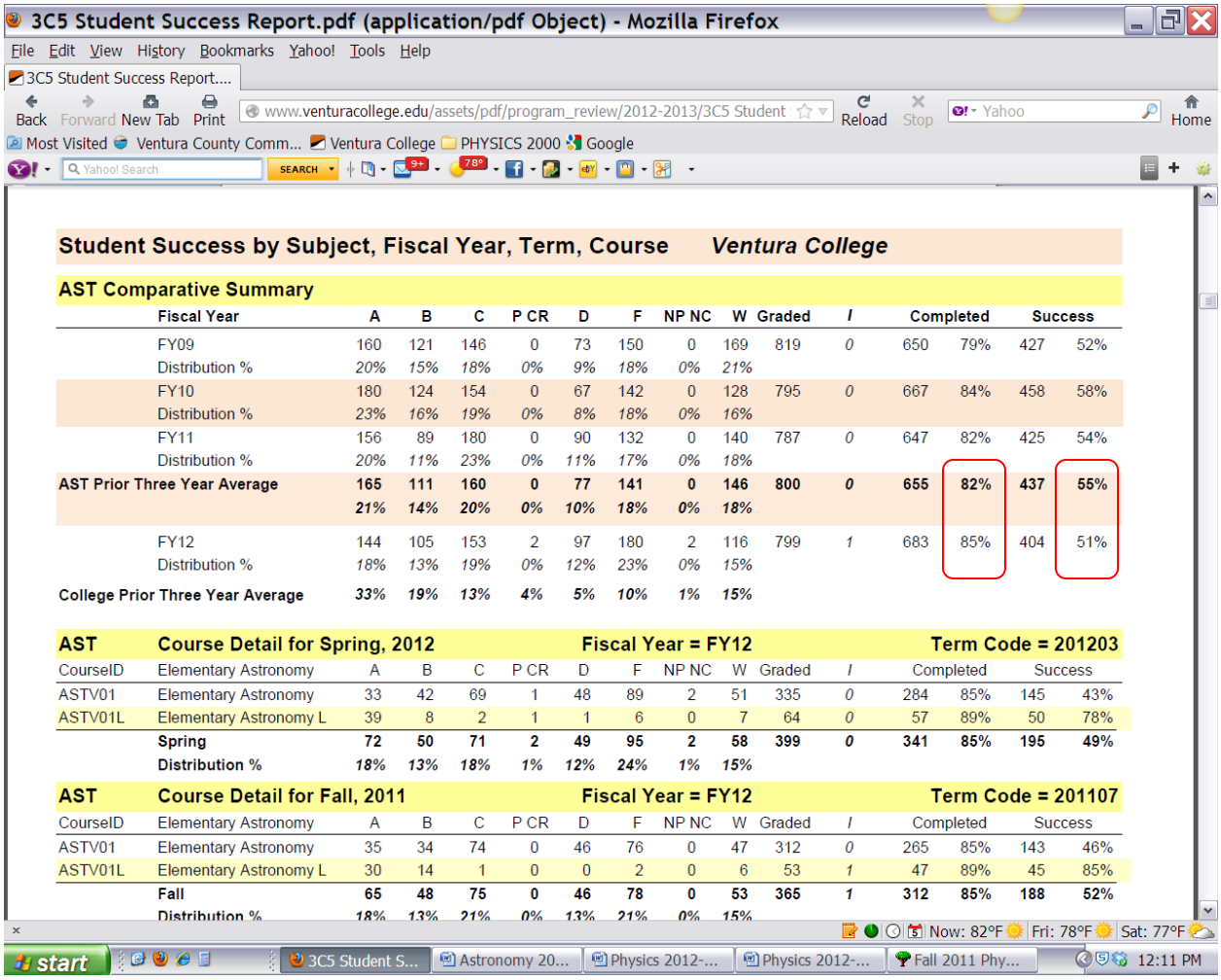
	Annual WSCH Ratio for AST	**721**	**740**	**743**	**734**	**765**			

With respect to Productivity by Subject Course Year, the lecture sections scored 147% of District goal, while the labs scored 102% of District goal. It is noteworthy that the FY AST lab headcount increased by 41% over the preceding 3 year average. This clearly shows the popularity of the AST labs to fulfill GE science requirements.

3C5: Interpretation of Program Retention, Student Success, and Grade Distribution



3C5 Student Success Report.pdf (application/pdf Object) - Mozilla Firefox

Student Success by Subject, Fiscal Year, Term, Course *Ventura College*

AST Comparative Summary

Fiscal Year	A	B	C	P CR	D	F	NP NC	W	Graded	I	Completed		Success	
FY09	160	121	146	0	73	150	0	169	819	0	650	79%	427	52%
Distribution %	20%	15%	18%	0%	9%	18%	0%	21%						
FY10	180	124	154	0	67	142	0	128	795	0	667	84%	458	58%
Distribution %	23%	16%	19%	0%	8%	18%	0%	16%						
FY11	156	89	180	0	90	132	0	140	787	0	647	82%	425	54%
Distribution %	20%	11%	23%	0%	11%	17%	0%	18%						
AST Prior Three Year Average	**165**	**111**	**160**	**0**	**77**	**141**	**0**	**146**	**800**	**0**	**655**	**82%**	**437**	**55%**
	21%	**14%**	**20%**	**0%**	**10%**	**18%**	**0%**	**18%**						
FY12	144	105	153	2	97	180	2	116	799	1	683	85%	404	51%
Distribution %	18%	13%	19%	0%	12%	23%	0%	15%						
College Prior Three Year Average	**33%**	**19%**	**13%**	**4%**	**5%**	**10%**	**1%**	**15%**						

AST Course Detail for Spring, 2012 — Fiscal Year = FY12 — Term Code = 201203

CourseID	Elementary Astronomy	A	B	C	P CR	D	F	NP NC	W	Graded	I	Completed		Success	
ASTV01	Elementary Astronomy	33	42	69	1	48	89	2	51	335	0	284	85%	145	43%
ASTV01L	Elementary Astronomy L	39	8	2	1	1	6	0	7	64	0	57	89%	50	78%
	Spring	**72**	**50**	**71**	**2**	**49**	**95**	**2**	**58**	**399**	**0**	**341**	**85%**	**195**	**49%**
	Distribution %	**18%**	**13%**	**18%**	**1%**	**12%**	**24%**	**1%**	**15%**						

AST Course Detail for Fall, 2011 — Fiscal Year = FY12 — Term Code = 201107

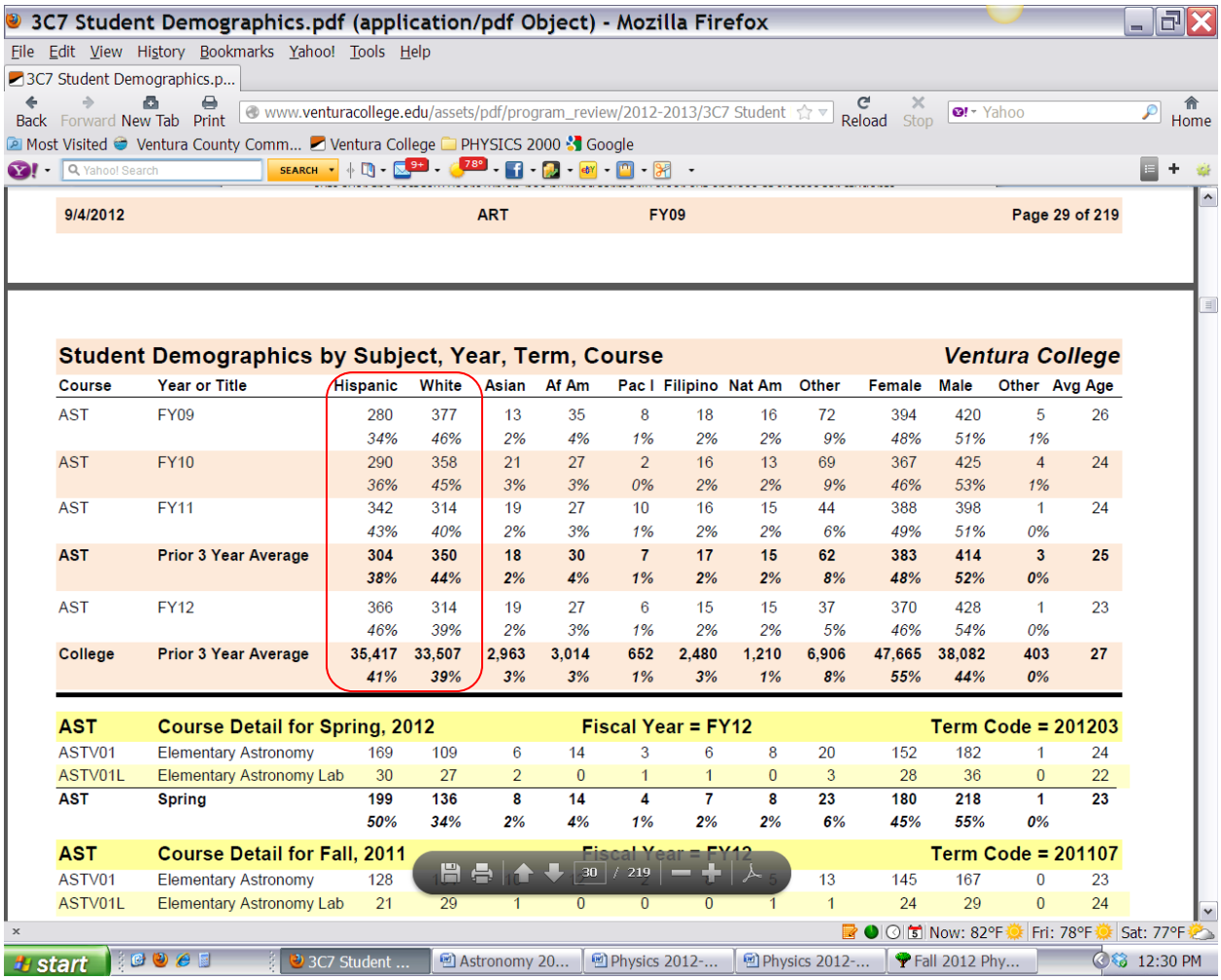
CourseID	Elementary Astronomy	A	B	C	P CR	D	F	NP NC	W	Graded	I	Completed		Success	
ASTV01	Elementary Astronomy	35	34	74	0	46	76	0	47	312	0	265	85%	143	46%
ASTV01L	Elementary Astronomy L	30	14	1	0	0	2	0	6	53	1	47	89%	45	85%
	Fall	**65**	**48**	**75**	**0**	**46**	**78**	**0**	**53**	**365**	**1**	**312**	**85%**	**188**	**52%**
	Distribution %	**18%**	**13%**	**21%**	**0%**	**13%**	**21%**	**0%**	**15%**						

The Astronomy FY12 student retention increased to 85% relative to the prior 3 year average of 82%. This is due to Instructors working with marginal students. The Astronomy FY12 student success decreased to 51% relative to the prior 3 year average of 55%. We see a trend of rising success from FY09 to FY10 with a decline after that. We speculate that this is in part due to the challenges faced by students in the fast changing educational landscape of CC due to funding cuts over the last few years which has blurred formerly clear cut choices of classes for students.

3C6: Interpretation of the Program Completion Information

Astronomy awards no certificates or degrees

3C7: Interpretation of the Program Demographic Information



3C7 Student Demographics.pdf (application/pdf Object) - Mozilla Firefox

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Student Demographics by Subject, Year, Term, Course *Ventura College*

Course	Year or Title	Hispanic	White	Asian	Af Am	Pac I	Filipino	Nat Am	Other	Female	Male	Other	Avg Age
AST	FY09	280	377	13	35	8	18	16	72	394	420	5	26
		34%	*46%*	*2%*	*4%*	*1%*	*2%*	*2%*	*9%*	*48%*	*51%*	*1%*	
AST	FY10	290	358	21	27	2	16	13	69	367	425	4	24
		36%	*45%*	*3%*	*3%*	*0%*	*2%*	*2%*	*9%*	*46%*	*53%*	*1%*	
AST	FY11	342	314	19	27	10	16	15	44	388	398	1	24
		43%	*40%*	*2%*	*3%*	*1%*	*2%*	*2%*	*6%*	*49%*	*51%*	*0%*	
AST	**Prior 3 Year Average**	**304**	**350**	**18**	**30**	**7**	**17**	**15**	**62**	**383**	**414**	**3**	**25**
		38%	***44%***	***2%***	***4%***	***1%***	***2%***	***2%***	***8%***	***48%***	***52%***	***0%***	
AST	FY12	366	314	19	27	6	15	15	37	370	428	1	23
		46%	*39%*	*2%*	*3%*	*1%*	*2%*	*2%*	*5%*	*46%*	*54%*	*0%*	
College	**Prior 3 Year Average**	**35,417**	**33,507**	**2,963**	**3,014**	**652**	**2,480**	**1,210**	**6,906**	**47,665**	**38,082**	**403**	**27**
		41%	***39%***	***3%***	***3%***	***1%***	***3%***	***1%***	***8%***	***55%***	***44%***	***0%***	

AST	Course Detail for Spring, 2012					Fiscal Year = FY12						Term Code = 201203	
ASTV01	Elementary Astronomy	169	109	6	14	3	6	8	20	152	182	1	24
ASTV01L	Elementary Astronomy Lab	30	27	2	0	1	1	0	3	28	36	0	22
AST	**Spring**	**199**	**136**	**8**	**14**	**4**	**7**	**8**	**23**	**180**	**218**	**1**	**23**
		50%	***34%***	***2%***	***4%***	***1%***	***2%***	***2%***	***6%***	***45%***	***55%***	***0%***	

AST	Course Detail for Fall, 2011					Fiscal Year = FY12						Term Code = 201107	
ASTV01	Elementary Astronomy	128							13	145	167	0	23
ASTV01L	Elementary Astronomy Lab	21	29	1	0	0	0	1	1	24	29	0	24

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In FY12 Astronomy saw an increase in Hispanic enrollment to 46%, and a decrease in White enrollment to 39% relative to the prior 3 year average. This is in line with the College's pattern of increasing enrollment of Hispanics.

Astronomy Program Review
2012-2013

4. Performance Assessment

4A1: 2012-2013 Institutional Level Student Learning Outcomes

Institutional Level Student Learning Outcome 1	Performance Indicators
Communication	This ISLO will not be assessed by Astronomy.
Operating Information	
Analysis – Assessment	

Institutional Level Student Learning Outcome 2	Performance Indicators
Reasoning – Scientific and Quantitative	75 %of students will reach a satisfactory or higher level according to the institutional communication rubric for scientific and quantitative reasoning
Operating Information	
This ISLO will be assessed in the 2012/13 academic year for the following courses: AST V01, AST V01L	
Analysis – Assessment	
This ISLO has not yet been assessed. It will be based on the 2012 Institutional Student Learning Outcomes Ventura Community College Scoring Rubric: Quantitative Reasoning Skills	

Institutional Level Student Learning Outcome 3	Performance Indicators
Critical Thinking and problem solving	This ISLO will be assessed in the 2012/13 academic year for the following courses: AST V01, AST V01L
Operating Information	
Analysis – Assessment	

Institutional Level Student Learning Outcome 4	Performance Indicators
Information Literacy	This ISLO will not be assessed by Astronomy
Operating Information	
Analysis – Assessment	

Institutional Level Student Learning Outcome 5	Performance Indicators
Personal/community awareness and academic / career responsibilities	This ISLO will not be assessed by Astronomy
Operating Information	
Analysis – Assessment	

4A2: 2012-2013 Program Level Student Learning Outcomes - ***For programs/departments offering degrees and/or certificates***

Astronomy does not offer degrees or certificates

Program-Level Student Learning Outcome 1	Performance Indicators
Operating Information	
Analysis – Assessment	

Program-Level Student Learning Outcome 2	Performance Indicators
Operating Information	
Analysis – Assessment	

Program-Level Student Learning Outcome 3	Performance Indicators
Operating Information	
Analysis – Assessment	

Program-Level Student Learning Outcome 4	Performance Indicators
Operating Information	
Analysis – Assessment	

Program-Level Student Learning Outcome 5	Performance Indicators
Operating Information	
Analysis – Assessment	

4A3: 2012-2013 Course Level Student Learning Outcomes - *Refer to TracDat*

4B: 2012-2013 Student Success Outcomes

Student Success Outcome 1	Performance Indicators
The program will increase its **retention rate** relative to itself	The program will increase its retention rate from the average of the **program's** prior three-year retention rate. The retention rate is the number of students who finish a term with any grade other than W or DR divided by the number of students at census.
Operating Information	
The prior 3 year retention rate was 82%. The FY 12 retention rate was 85%	
Analysis – Assessment	
The results exceeded the goal by 4%. It is deemed a remarkable success. **It should be noted that this performance indicator cannot realistically be increased beyond this point for a GE science course as a 85% retention is very high.**	

Student Success Outcome 2	Performance Indicators
The program will increase its **retention rate** relative to the College	The program will increase its retention rate from the average of the **college's** prior three-year retention rate. The retention rate is the number of students who finish a term with any grade other than W or DR divided by the number of students at census
Operating Information	
Analysis – Assessment	
Astronomy achieved a FY 12 retention rate of 85% versus the College rate of 69%. This continues to support the fact that Astronomy as a GE science course is highly popular among the student population	

Student Success Outcome 3	Performance Indicators
The program will increase the **student success rates** relative to itself	The program will increase the student success rates from the average of the **program's** prior three-year success rates. The student success rate is the percentage of students who receive a grade of c or better.
Operating Information	
The prior 3 year student success rate was 55%. The FY 12 success rate dropped to 51%	

Analysis – Assessment
We see a trend of rising success from FY09 to FY10 with a decline after that. The instructor base for AST V01 has remained the same for the last 7 years, yet the scores have declined. It's fair to say that the quality of instruction has remained essentially constant, so that this points to a broader spectrum of students and student preparedness in handling a GE science course. Because of faculty retirement in Spring 2012, ¾ of the AST V01 sections in Fall 2012 are being taught by new P/T staff. The results of this change in staff will be monitored going forward.

Student Success Outcome 4	**Performance Indicators**
The program will increase the **student success rates** relative to the College	The program will increase the student success rates from the average of the **college's** prior three-year success rates. The student success rate is the percentage of students who receive a grade of C or better.
Operating Information	
The FY 12 success rate 51%. The College Prior 3 year average was 69%	
Analysis – Assessment	
The student success rate clearly needs to be improved relative to the college. 23% of the students in astronomy lecture (not lab) received a grade of F which is far too high. For example, the failure rate of Chem 1A is 10%, Biology 1 is 15%, and introductory geology is 14%. It would seem that a failing student should know he/she is failing before the end of the semester and therefore be dropped.	

4C. 2012-2013 Program Operating Outcomes

Program Operating Outcome 1	**Performance Indicators**
The program will maintain WSCH/FTEF above the 525 goal set by the district.	The program will maintain WSCH/FTEF above the 525 goal set by the district.
Operating Information	
The Program WSCH/FTEF for FY12 was 768.	
Analysis – Assessment	

Program Operating Outcome 2	**Performance Indicators**
Operating Information	

Analysis – Assessment

4D. Program Review Rubrics for Instructional Programs

Academic Programs

Point Value	Element	Score
Up to 6	Enrollment demand	6
Up to 6	Sufficient resources to support the program (ability to find qualified instructors; financial resources; equipment; space)	4
Up to 4	Agreed-upon productivity rate	4
Up to 4	Retention rate	4
Up to 3	Success rate (passing with C or higher)	1
Up to 3	Ongoing and active participation in SLO assessment process	2
Total Points	**Interpretation**	
22 – 26	Program is current and vibrant with no further action recommendation	
18 – 21	Recommendation to attempt to strengthen the program 21	
Below 18	Recommendation to consider discontinuation of the program	

TOTAL

CTE Programs

Point Value	Element	Score
Up to 6	Enrollment demand	
Up to 6	Sufficient resources to support the program (ability to find qualified instructors; financial resources; equipment; space)	
Up to 6	Program success (degree / certificate / proficiency award completion over 4 year period)	
Up to 4	Agreed-upon productivity rate	
Up to 4	Retention rate	
Up to 4	Employment outlook for graduates / job market relevance	
Up to 3	Success rate (passing with C or higher)	
Up to 3	Ongoing and active participation in SLO assessment process	
Total Points	**Interpretation**	
31 - 36	Program is current and vibrant with no further action recommendation	
25 - 30	Recommendation to attempt to strengthen the program	
Below 25	Recommendation to consider discontinuation of the program	

5. Findings

2012-2013 - FINDINGS

Finding 1:
Astronomy exceeded District goals for retention (85%) but fell short on student success (51%).

The percentage of students receiving D, F, or W in FY12 was 12%, 23%, 15%. These types of numbers have remained stubbornly high over the years. Students stay enrolled in class even though their grades are below passing throughout the semester. This suggests that early identifying at-risk students followed by Instructor counseling, greater use of student peer study groups, and Instructor led study review sessions might be helpful.

Of significance, going forward, 75% of the astronomy lecture courses are now being taught by a new instructor. Therefore, it would be prudent to see how student success numbers look like 1 year from now under the new instructor.

Finding 2:
Astronomy lab which was started several years ago under the auspices of an evening P/T instructor has proven to be a popular GE science lab for students. It regularly caps in enrollment. It is noteworthy that the FY AST lab headcount increased by 41% over the preceding 3 year average.

Finding 3:

6. Initiatives

6A: 2011-2012 - Initiatives

Initiative Provide e book in a format that is compatible with ipad, Kindle and iphone.

Initiative ID AST 00

Links to Finding 1

E-1 to E-6

One section of AST V01 is taught online. The current textbook is not particularly effective in online teaching and communication such as ipads, Kindle, and smart phones. The course will seek an AST e-book better suited to accommodate various online learning devices.

Benefits:

The benefit is that this will allow distance-learning students easier access to online resource

Request for Resources None

Funding Sources

No new resources are required (use existing resources)	X
Requires additional general funds for personnel, supplies or services (includes maintenance contracts)	
Requires computer equipment funds (hardware and software)	
Requires college equipment funds (other than computer related)	
Requires college facilities funds	
Requires other resources (grants, etc.)	

Outcomes

Online astronomy now has en e-book as part of its curriculum. However, it is not yet compatible with Kindle, iphone, or the ipad. This will be addressed during Summer 2013.

Initiative
Instigate additional methods of pedagogy to improve exam scores, student retention, and student success

Initiative ID AST 01

Links to Finding

E-1 to E-6

The Astronomy Program will investigate and implement addition methods of pedagogy to improve overall student performance such but limited to:

1. Utilization of classroom Clickers
2. Increased emphasis on Instructor/student tutoring
3. Organizing cohort study groups
4. Use of online learning tools and website to communicate the subject matter to a broader audience of students

Benefits

1. Classroom Clickers will allow the Instructor to assess classroom learning in real-time
2. Tutoring will help personalize student learning needs
3. Cohort study groups will continue the learning experience outside of the live classroom or online website
4. Broader source of online learning resources will allow more students to interact with the core material through different venues.

Request for Resources

Purchase of a set of classroom Clickers

Funding Sources
Please check one or more of the following funding sources.

No new resources are required (use existing resources)	
Requires additional general funds for personnel, supplies or services (includes maintenance contracts)	
Requires computer equipment funds (hardware and software)	
Requires college equipment funds (other than computer related)	X
Requires college facilities funds	
Requires other resources (grants, etc.)	

Outcomes

1. Utilization of classroom Clickers
   This Initiative was denied by the Program Review Committee
2. Increased emphasis on Instructor/student tutoring
3. Students now have more student online discussions. Although it is difficult to quantify specifically, the overall results (grades) has been very satisfactory.
4. Organizing cohort study groups
   This Initiative was not implemented.
5. Use of online learning tools and website to communicate the subject matter to a broader audience of students
   Reference is not made to NASA website. The students seem to appreciate this but it is difficult to translate this into increased grade success unless there is a specific quiz drawn up.

2011 - 2012 FINAL Program Initiative Priority Ratings

Line Number	Program	Category	Program Priority (0, 1, 2, 3…)	Division Priority (R,H,M,L)	Committee Priority (R, H, M, L)	College Priority (R, H, M, L)	Initiative ID	Initiative Title	Resource Description	Estimated Cost	Adjusted Cost	Accumulated Costs	Full Time or Part Time
1	Astronomy	None	0	H			AST1201	Improve pedagocy	Improve e-book format			-	
2	Astronomy	Equipment	2	L	M	M	AST1202	Equipment	Classroom set of Clickers	3,000	3,000	3,000	

6B: 2012-2013 INITIATIVES

Initiative ID should be consistent. For example:
2011-2012 identified initiatives - ART1201, ART1202, etc.
2012-2013 identified initiatives - ART1301, ART1302, etc.

Initiative 1: Student Success Improvement #1

Initiative ID AST1301

Improve Student Success Scores from the 2012 score of 51% to 61%.
Students stay enrolled in class even though their grades are below passing throughout the semester. This suggests that there is room for improvement by:

More use of Early Alert followed by, Instructor counseling to Early Alert students

Links to Finding
3C5

Benefits – Student Success scores will increase.

Request for Resources – None

Funding Sources

No new resources are required (use existing resources)	X
Requires additional general funds for personnel, supplies or services (includes maintenance contracts)	
Requires computer equipment funds (hardware and software)	
Requires college equipment funds (other than computer related)	
Requires college facilities funds	
Requires other resources (grants, etc.)	

Initiative 2: Student Success Improvement #2

Initiative ID AST1302

Increased use of student peer study groups;

Links to Finding
3C5

Benefits – Student Success scores will increase.

Request for Resources – None

Funding Sources

No new resources are required (use existing resources)	X
Requires additional general funds for personnel, supplies or services (includes maintenance contracts)	
Requires computer equipment funds (hardware and software)	
Requires college equipment funds (other than computer related)	
Requires college facilities funds	
Requires other resources (grants, etc.)	

Initiative 3: Student Success Improvement #3

Initiative ID AST1303

Implement quizzes for specific assignments such as studying NASA online sites.

Links to Finding
3C5

Benefits – Student Success scores will increase.

Request for Resources – None

Funding Sources

No new resources are required (use existing resources)	X
Requires additional general funds for personnel, supplies or services (includes maintenance contracts)	
Requires computer equipment funds (hardware and software)	
Requires college equipment funds (other than computer related)	
Requires college facilities funds	
Requires other resources (grants, etc.)	

6C: 2012-2013 Program Initiative Priority Ratings

Program	Finding Number	Category	Program Priority (R, H, M, L)	Division Priority (R,H,M,L)	Committee Priority (R, H, M, L)	College Priority (H, M, L)	Initiative ID	Initiative Title	Resource Description	Estimated Cost
Astronomy	1	None	M				AST1301	Student Success Improvement #1	More use of Early Alert followed by, Instructor counseling to Early Alert students	0
Astronomy	2	None	M				AST1302	Student Success Improvement #2	Increased use of student peer study groups	0
Astronomy	3	None	M				AST1303	Student Success Improvement #3	Implement quizzes for specific assignments such as studying NASA online sites.	0

6D: PRIORITIZATIONS OF INITIATIVES WILL TAKE PLACE AT THE PROGRAM, DIVISION, COMMITTEE, AND COLLEGE LEVELS:

Program/Department Level Initiative Prioritization
All initiatives will first be prioritized by the program/department staff. Prioritize the initiatives using the **RHML** priority levels defined below.

Division Level Initiative Prioritization
The program initiatives within a division will be consolidated into division spreadsheets. The dean may include additional division-wide initiatives. All initiatives will then be prioritized using the **RHML** priority levels defined below.

Committee Level Initiative Prioritization
The division's spreadsheets will be prioritized by the appropriate college-wide committees (staffing, technology, equipment, facilities) using the **RHML** priority levels defined below.

College Level Initiative Prioritization
Dean's will present the consolidated prioritized initiatives to the College Planning Council. The College Planning Council will then prioritize the initiatives using the **RHML** priority levels defined below.

R: Required – mandated or unavoidable needs (litigation, contracts, unsafe to operate conditions, etc.).

H: High – approximately 1/3 of the total program/department/division's initiatives by resource category (personnel, equipment, etc.)

M: Medium – approximately 1/3 of the total program/department/division's initiatives by resource category (personnel, equipment, etc.)

L: Low – approximately 1/3 of the total program/department/division's initiatives by resource category (personnel, equipment, etc.)

7. Process Assessment and Appeal

7A. Purpose of Process Assessment

The purpose of program review assessment is to evaluate the process for continual improvement. The process is required for accreditation and your input is very important to us as we strive to improve.

7B. 2012 - 2013 ASSESSMENT QUESTIONS

1. Did you complete the program review process last year, and if so, did you identify program initiatives?
Yes, the program review process was completed last year. Yes, the program initiatives were identified.

2a. Were the identified initiatives implemented?
e-books, online student discussion, and NASA websites have been incorporated in some of the astronomy sections. Cohort study groups and evaluation of student learning from public websites were not implemented.

2b. Did the initiatives make a difference?
The initiatives implemented did make a difference as reflected in final grades.

3. If you appealed or presented a minority opinion for the program review process last year, what was the result? NA

4. How have the changes in the program review process worked for your area?
They have helped identify and rank current and future needs of the department. There is a lot of data to review which requires cross referencing for data interpretation. This requires Department Heads to become data analysts which is extremely time-consuming.

5. How would you improve the program review process based on this experience?
In order to streamline the process, I would make some categories such as demographics optional.

7C. Appeals

After the program review process is complete, your program has the right to appeal the ranking of initiatives.

If you choose to appeal, please complete the appropriate form that explains and supports your position. Forms are located at the Program Review VC website.

The appeal will be handled at the next higher level of the program review process.