College of San Mateo

The Program Review process should serve as a mechanism for the assessment of performance that recognizes and acknowledges good performance and academic excellence, improves the quality of instruction and services, updates programs and services, and fosters self-renewal and self-study. Further, it should provide for the identification of weak performance and assist programs in achieving needed improvement. Finally, program review should be seen as a component of campus planning that will not only lead to better utilization of existing resources, but also lead to increased quality of instruction and service. A major function of program review should be to monitor and pursue the congruence between the goals and priorities of the college and the actual practices in the program or service.

~Academic Senate for California Community Colleges

INSTRUCTIONS

For information about cycles for *Comprehensive Program Review and Planning*, see Instructional and Student Services program review rotation schedules posted online in their respective sections of the program review webpage: http://collegeofsanmateo.edu/prie/program_review/program_review.php)

Resources for Supporting Documentation:
A listing of resources and documents which provide data or information for each section is included at the end of this document, after the final signature page. These resources are posted online and their URLs are listed at the end of this document.

(You may delete this section, when you submit your final program review.)

Next Steps:
Program Review and Planning reports are due March 25, 2012. This date is aligned with CSM's *Integrated Planning Calendar*. (See: http://collegeofsanmateo.edu/prie/planning.asp)

Upon its completion, please email this *Program Review and Planning* report to the Vice President of Instruction, the Vice President of Student Services, the appropriate division dean, the CSM Academic Senate President, and the Dean of Planning, Research, and Institutional Effectiveness (PRIE).

James Carranza, Academic Senate President, carranza@smccd.edu
Susan Estes, Vice President of Instruction, estes@smccd.edu
Jennifer Hughes, Vice President of Student Services, hughesj@smccd.edu
John Sewart, Dean (PRIE), sewart@smccd.edu

DEPARTMENT OR PROGRAM:

DIVISION: Math/Science

I.   DESCRIPTION OF PROGRAM

> The Astronomy Department offers labs and courses in introductory astronomy. These courses and labs enable students to discover and critically analyze the universe around them. The student will get a basic understanding of the universe and all that is contained within it. More advanced students can use the observatory to pursue independent research on spectroscopy and photometry. All of the courses and labs are UC and CSU transferrable.

II.   STUDENT LEARNING OUTCOMES (SLOs)

a. **Please list the courses, if any, for which SLOs have not been assessed. What assessment is planned for these courses? What assistance or resources would help to complete assessment?**

> ASTR 125 (Stars, Galaxies and Cosmology) and ASTR 103 (Observational Astronomy Lab) are the only courses for which assessment has not been done. Assessment for both courses will occur by May 30, 2012. No assistance or resources will be needed to complete assessment.

b. Please list any degrees offered. Have SLOs been identified for each degree? Briefly describe the department's plan for assessment.

> At present, there are no degrees offered by the Astronomy Department.

c. Please list any certificates offered. Have SLOs been identified for each certificate? Briefly describe the department's plan for assessment.

> At present, there are no certificates offered by the Astronomy Department. However, we are in the process of installing an Astroimaging and Observatory Operation (AOOC) certificate, which is approved by COI and is pending for the approval by California state review board. The AOOC program is designed such that, upon completion, students are qualified to operate any observatory, and apply various imaging techniques to gather and analyze astrophysical data. With minimal modification, students can apply their course load for this program toward a BS degree in astronomy or astrophysics upon transfer to any four-year institution that offers such a degree. Bay Area colleges and universities, as well as professional observatories, are in need of qualified technicians that can operate telescopes and various imaging devices to collect astrophysical data and advance the field of astronomy. For instance, a graduate of this program is well equipped to operate the telescopes at Stanford University or San Francisco State University. There is a high demand for such technicians and there are very few institutions that can train the students in this field. The College of San Mateo Astronomy Department, with its roll off roof observatory and trained staff and faculty, is in a unique position to fulfill that need.

d. Based on assessment results, 1) what changes will the department consider or implement to improve student learning; and 2) what, if any, resources will the department or program require to implement these changes? (Please itemize these resources in section VII of this document.)

Based on the assessments already completed, students are learning the required material. However, I asked my ASTR 100 and 125 students what was the most difficult section of the course for them to learn. Most said that the section on light was the most difficult, especially the electromagnetic spectrum and spectroscopy. As a result, I decided to request the following two resources in Section V11: an FLIR (Forward Looking Infrared Camera) to investigate the infrared portion of our spectrum and an Lhires Lite Spectrograph, to view the sun and various other light sources.

The FLIR camera will be used in a number of demonstrations and experiments in the classroom and the lab. For instance, the camera will allow students to see themselves in the infrared portion of the electromagnetic spectrum. They will be able to see the different temperatures of their hair, skin, clothes, etc. This will show them how different parts of their bodies can be at different temperatures.

The Lhires Lite Spectrograph will allow students ASTR 101 and ASTR 103 lab students to view spectra of the sun and of common light sources in and around the planetarium. They will be able to discern what elements are in the sun and in the light they use everyday. Spectroscopy is an extremely important part of the toolkit astrophysicists use to decode the universe.

Both of these devices will make abstract concepts, such as infrared light and spectroscopy more accessible and understandable for the students.

Since Fall 2011, clickers are now being used in all of our lectures, as a result of a rental agreement between the bookstore and the clicker company. Clickers are allowing us to increase student to student and faculty to student interaction. Students love using them, since it allows them to compete with their friends, as to who knows the correct answer. Faculty love using clickers because they allow them to really see if the students understand the material. It also allows faculty to ear from students, who are normally reticent to express their opinion.

e. Below please update the program's SLO Alignment Grid below. The column headings identify the General Education (GE) SLOs. In the row headings (down the left-most column), input the course numbers (e.g. ENGL 100); add or remove rows as necessary. Then mark the corresponding boxes for each GE-SLO with which each course aligns.

If this *Program Review and Planning* report refers to a vocational program or a certificate program that aligns with alternative institutional-level SLOs, please replace the GE-SLOs with the appropriate corresponding SLOs.

GE-SLOs→ Program Courses ↓	Effective Communication	Quantitative Skills	Critical Thinking	Social Awareness and Diversity	Ethical Responsibility
ASTR 100	X	X	X		
ASTR 101	X	X	X		
ASTR 103	X	X	X		

ASTR 115	X	X	X		
ASTR 125	X	X	X		

III.   DATA EVALUATION

a. Referring to the Enrollment and WSCH data, evaluate the current data and projections. If applicable, what programmatic, course offering or scheduling changes do trends in these areas suggest? Will any major changes being implemented in the program (e.g. changes in prerequisites, to-be-arranged hours (TBA), lab components. etc.) require significant adjustments to the Enrollment and WSCH projections?

> Although our WSCH for the academic year 2010-11, 3717, is lower than our WSCH for 2009-10, 42902.5, due to the reduction of 2 classes in Fall 2010, Astronomy is still doing very well. Our enrollment increased 10%, from 462 in Fall 2010 to 511 in Spring 2011. The Summer 2011 WSCH increased to 1132.43 from 729.69. This represented an increase of 35%, primarily due to the addition of 1 section. As long as funding allows us to maintain the number of courses, our enrollments will increase.

b. Referring to the Classroom Teaching FTEF data, evaluate the current data and projections. If applicable, how does the full-time and part-time FTEF affect program action steps and outcomes? What programmatic changes do trends in this area suggest?

> Total FTEF has remained relatively constant, ranging from 3.61 in 2008-09, 3.97 in 2009-10, and 3.9 in 2010-11. This number is not expected to change in the near future, since the number of both full-time and part-time faculty is also not expected to change, unless the certificate program is approved and offered,

c. Referring to the Productivity (LOAD) data, discuss and evaluate the program's productivity relative to its target number. If applicable, what programmatic changes or other measures will the department consider or implement in order to reach its productivity target? If the productivity target needs to be adjusted, please provide a rationale.

> Although our LOAD has decreased slightly from 1058 during 2009-10 to 954 in 2010-11, it is far above the State productivity measure of 525, the college total of 576, and the Department total of 564. The LOAD for Summer 2010 was 1490, much higher than the Summer LOAD of any other department in Math/Science.

IV. STUDENT SUCCESS EVALUATION AND ANALYSIS

a. Considering the overall "Success" and "Retention" data, briefly discuss how effectively the program addresses students' needs relative to current, past, and projected program and college student success rates.

Astronomy		Retention(%)	Success(%)
	2008-09	86	72
	2009-10	87	71
	2010-11	86	71

College		Retention(%)	Success(%)
	2008-10	84	70
	2009-10	85	70
	2010-11	84	69

Math/Science		Retention(%)	Success(%)
	2008-09	82	67
	2009-10	82	66
	2010-11	81	66

As can be seen from the data above, Astronomy has exceeded both the retention and success figures for the Math/Science department and college for the years 2008-11. No further action need be taken.

Discuss distance education (online and hybrid modes) success and retention data and, where possible, compare with data for on campus sections.

> The course has been exceptionally successful. The enrollment went from ~50 students to 140 in three semesters. The retention rate is 87%.   Feedback has been asked for anonymous feedback from students and all have been positive. These figures are in line with retention rate, as indicated in the table above. Students come from all over the world - China, a soldier from Afghanistan, several from CSU's and the State university system [as well as from other colleges in our district].

If applicable, identify unmet student needs related to student success and describe programmatic changes or other measures the department will consider or implement in order to improve student success. (*Note that item IV b, below, specifically addresses equity, diversity, age, and gender.*)

> Since we are using clickers, it is possible that our retention and success rates may yet increase.   We started using them in Fall 2011 and data is not yet available.

b. Briefly discuss how effectively the program addresses students' needs specifically relative to equity, diversity, age, and gender. If applicable, identify unmet student needs and describe programmatic changes or other measures the department will consider or implement in order to improve student success with specific regard to equity, diversity, age, and gender.

Asian students have the highest success rate in astronomy, 80%. This is greater than the Math/Science figure of 74% and the college's value of 75%. Filipino students succeeded at the rate of 79%, compared to 69% for Math/Science and 68% for the college. The rate for Hispanic students was 67%, 61% and 64% respectively. The rate for white students was 71%, 68% and 64% respectively. Black students accounted for only 3% of Astronomy's total enrollment, but had a success rate of 71%, compared to 49% for Math/Science and 58% for the college. The number of Black students is unfortunately very low, as is the case all across the board for Math/Science and the college. However, Black students are sorely underrepresented in Astronomy. This is partly due to lack of role models as well as insufficient exposure to the science. I do however, see many Black families coming to our planetarium shows and Jazz Under the Stars events. Hopefully, this exposure will help to increase the numbers.

V. REFLECTIVE ASSESSMENT OF INTERNAL AND EXTERNAL FACTORS AND PROGRAM/STUDENT

a. Using the matrix provided below and reflecting on the program relative to students' needs, briefly analyze the program's strengths and weaknesses and identify opportunities for and possible threats to the program (SWOT analysis). See page 10 for definition of SWOT). Consider both external and internal factors. For example, if applicable, you might consider changes in our community and beyond (demographic, educational, social, economic, workforce, and, perhaps, global trends); look at the demand for the program; program review links to other college and District programs and services offered; look at similar programs at other area colleges; and investigate auxiliary funding.

	INTERNAL FACTORS	EXTERNAL FACTORS
Strengths	Dedicated faculty and staff that really care about what and how students learn. Our planetarium and observatory are draws for the students and enhance our ability to teach.	Very interested public, which attend our astronomy outreach events. Schools that come to our Project Stargaze.
Weaknesses	Cancellation of Coastside classes. These classes were important for students in the Half Moon Bay area to take CSM classes.	Heavy demands on students outside of school, including work and family responsibilities.
Opportunities	Clickers are now engaging students and making it more fun for them to learn.	Have established a connection with NASA/Ames internship program. As of now, at least one student is employed as an intern at Ames.
Threats	Reduction of class offerings. Delay in implementation of AOOC certificate criteria due to California state board review.	California economic future directly affecting community college funding and affecting preparedness of students by reductions in K-12 education.

b. If applicable, discuss how new positions, other resources, and equipment granted in previous years have contributed towards reaching program action steps and towards

overall programmatic health. If new positions, equipment, or other resources have been requested but not granted, discuss how this has impacted overall programmatic health. (You might reflect on data from Core Program and Student Success Indicators for this section.)

> The new MacBooks for the ASTR 101 labs have been instrumental in having students do their lab experiments, without undue crowding. We now have 1 MacBook for every 2 students. Before, the ratio was 1 to 4. The ST10XME CCD camera has been used extensively in support of our Special Projects courses. Students have been taking many images and taken lots of photometric data with it. The four spectrum power supplies and spectrum tubes have really helped out the ASTR 101 labs. We can now have students view more types of emission spectra.

VI. Goals, Action Steps, and Outcomes

a. Identify the program's goals. Goals should be broad issues and concerns that incorporate some sort of measurable action and should connect to CSM's *Educational Master Plan, 2008 (EMP); Data Updates to EMP, 2011-12; College Index, 2008/9-2011/12; Institutional Priorities, 2008-2011; 5 & 5 College Strategies; GE-SLOs; SLOs.*)

> A major goal would be for the implementation of our AOOC certification program. We have most of the details worked out, however further review by the California State Board and further discussion of prerequisites with COI is necessary.
>
> In addition, engaging students will help with retention and their success. That is a primary goal for our lecture classes.

b. Identify the action steps your program will undertake to meet the goals you have identified.

> Astronomy has set the process in motion and we have to wait for Board approval and further discussions with COI.
>
> We have implemented the use of clickers in the lectures and preliminary results are very encouraging. Students are excited using tem and they can instantly get feedback as to their understanding of the material.

c. Briefly explain, specifically, how the program's goals and their actions steps relate to CSM's *Educational Master Plan, 2008 (EMP); Data Updates to EMP, 2011-12; College Index, 2008/9-2011/12; Institutional Priorities, 2008-2011; and 5 & 5 College Strategies.*

> Refer to part a) above. "A study of the literature demonstrates that student engagement is a key factor is student retention and success", Using clickers will go a long way to further this goal.

d. Identify and explain the program's outcomes, the measurable "mileposts" which will allow you to determine when the goals are reached.

> We will know when our AOOC certificate program is approved when we get word from the State Board.

> We will also know that success and retention have been improved, when we correlate clicker data with exam questions. The clickers allow us to view a student's responses to questions we pose. When using some of those same questions on an exam, we can get a measure of a student's understanding of the material.

VII. SUMMARY OF RESOURCES NEEDED TO REACH PROGRAM ACTION STEPS

a. In the matrices below, itemize the resources needed to reach program action steps and describe the expected outcomes for program improvement.* Specifically, describe the potential outcomes of receiving these resources and the programmatic impact if the requested resources cannot be granted.

* *Note:* Whenever possible, requests should stem from assessment of SLOs and the resulting program changes or plans. Ideally, SLOs are assessed, the assessments lead to planning, and the resources requested link directly to those plans.

Full-Time Faculty Positions Requested	Expected Outcomes if Granted and Expected Impact if Not Granted	If applicable, <u>briefly</u> indicate how the requested resources will link to achieving department action steps based on SLO assessment.
None required at this time.	N/A	N/A

Classified Positions Requested	Expected Outcomes if Granted and Expected Impact if Not Granted	If applicable, <u>briefly</u> indicate how the requested resources will link to achieving department action steps based on SLO assessment.
None required at this time.	N/A	N/A

b. For instructional resources including equipment and materials, please list the exact items you want to acquire and the total costs, including tax, shipping, and handling. Include items used for <u>instruction</u> (such as computers, furniture for labs and centers) and all materials designed for use by students and instructors as a learning resource (such as lab equipment, books, CDs, technology-based materials, educational software, tests, non-printed materials). Add rows to the tables as necessary. If you have questions as to the specificity required, please consult with your division dean. Please list by priority.

Resources Requested	Expected Outcomes if Granted and Expected Impact if Not Granted	If applicable, <u>briefly</u> indicate how the requested resources will link to achieving department action steps based on SLO assessment.
Item: Planetarium shows **Number:** 2 **Vendor:** TBD **Unit price**: $5,000 to $8,000 **Total Cost:** $10,000 to $16,000 **Status*:** Upgrade of planetarium visuals	The present planetarium shows that we have, are somewhat dated. Acquisition of one or two new shows would be concurrent with present astronomical knowledge and be more attractive to students and the general public	

Resources Requested	Expected Outcomes if Granted and Expected Impact if Not Granted	If applicable, briefly indicate how the requested resources will link to achieving department action steps based on SLO assessment.
Item: FLIR Infrared Thermal Imaging Camera **Model**: FLIR E30 **Number:** 1 **Vendor:** Instrumart **Unit price:** $2500 **Accessories:** $394 **Tax** (8.25%) = 238.76 **Total Cost:** $3132.76 **Status*:** New	We do not have any IR thermal imaging camera, to illustrate IR light. Light is a difficult chapter for the students, but the utilization of this FLIR camera would make IR far less mysterious. Students would be able to see how the their skin temperature is affected by heat or cold, would be able to look at their seat imprint, etc.	The IR imaging camera would facilitate the teaching of a difficult subject for students, **Light**. They would be able to see how IR is a dominant part of their lives.

Resources Requested	Expected Outcomes if Granted and Expected Impact if Not Granted	If applicable, briefly indicate how the requested resources will link to achieving department action steps based on SLO assessment.
Item: Lhires Lite spectrograph **Number:** 1 **Vendor:** Woodland Hills Camera **Unit price:** $1,635.00 **Tax** (8.25%): $134.89 **Total Cost:** $1,770.00 **Status*:** New	This spectrograph would allow the astronomy labs and classes to view the solar spectrum in very high resolution. In addition, the spectra of different spectrum tubes, as well as that of the full moon can be analyzed.	This spectroscope would also facilitate the teaching of spectral analysis, an important, yet difficult part of **Light.**

*Status = New, Upgrade, Replacement, Maintenance or Repair.

VIII. Course Outlines

    a. By course number (e.g. CHEM 210), please list all department or program courses included in the most recent college catalog, the date of the current Course Outline for each course, and the due date of each course's next update.

Course Number	Last Update Date	Six-year Update Due Date
ASTR 100	9/21/10	2016
ASTR 101	9/21/10	2016
ASTR 103	9/21/10	2016
ASTR 115	9/21/10	2016
ASTR 125	11/7/06	2012

IX. Advisory and Consultation Team (ACT)

    a. Please list non-program faculty who have participated on the program's Advisory and Consultation Team. Their charge is to review the *Program Review and Planning* report before its submission and to provide a brief written report with comments, commendations, and suggestions to the Program Review team. Provided that they come from outside the program's department, ACT members may be solicited from faculty at CSM, our two sister colleges, other community colleges, colleges or universities, and professionals in relevant fields. The ACT report should be attached to this document upon submission.

> Due to time constraints the department did not have an outside reader for this program review.

Attach or paste ACT report here.

    b. Briefly describe the program's response to and intended incorporation of the ACT report recommendations.

X.   PROGRAM REVIEW PARTICIPANTS AND SIGNATURES

Date of Program Review evaluation:

Please list the department's *Program Review and Planning* **report team:**

Primary program contact person: Darryl Stanford
Phone and email address: X6256 stanfordd@smccd.edu
Full-time faculty: Mohsen Janatpour
Part-time faculty: Chandra Vanajakshi
Administrators
Classified staff: Dean Drumheller
Students:

Primary Program Contact Person's Signature	*Date* *April 10, 2012*
Full-time Faculty's Signature	*Date*
Part-time Faculty's Signature	*Date*
Classified Staff Person's Signature	*Date*
Student's Signature	*Date*
Dean's Signature	*Date*

Comprehensive Program Review
RESOURCES FOR SUPPORTING DOCUMENTATION

Section 1
This section contains a listing of sources for data and key documents referred to in Section 2 along with other resources. Contact information for relevant people is also included.

Academic Senate
http://www.collegeofsanmateo.edu/academicsenate/
Contact: csmacademicsenate@smccd.edu
James Carranza, Academic Senate President, carranza@smccd.edu, (650) 574-6568

College Catalogs and College Class Schedules are archived online:
http://collegeofsanmateo.edu/schedule/archive.asp

Course Outlines are found at:
http://collegeofsanmateo.edu/articulation/outlines.asp

Committee on Instruction
http://collegeofsanmateo.edu/committeeoninstruction/
Contact: Teresa, Morris, morrist@smccd.edu, (650) 574-6617.

Program Review Resources (includes forms, data, and completed program reviews for both instructional and student services program review)
Note: PRIE has a new website as of 2/15/2012; Program Review resources will temporarily be housed at "old" site as we makes the transition to a new site:
http://collegeofsanmateo.edu/prie/program_review/program_review.php

Core Program and Student Success Indicators (See links for *"Quantitative Data for Instructional Programs"*)
Distance Education Program Review Data
Glossary of Terms for Program Review
Listing of Programs Receiving Program Review Data from PRIE
Rotation Schedule for Instructional Program Review, 2008-2014
http://collegeofsanmateo.edu/prie/program_review/program_review.php

Office of Planning, Research, and Institutional Effectiveness (PRIE)
(Note: PRIE has a new website as of 2/15/2012; the URL will remain the same.)
http://collegeofsanmateo.edu/prie/
Contact: John Sewart, Dean, sewart@smccd.edu, (650) 574-6196
Contact: Milla McConnell-Tuite, Coordinator, mcconnell@smccd.edu, (650)574-6699

At PRIE Website
College Index, 2008/9-
2011/12, http://collegeofsanmateo.edu/institutionalresearch/collegeindex.asp
Educational Master Plan, 2008, http://collegeofsanmateo.edu/prie/planningdocs.asp
Educational Master Plan, Data Updates, 2011-
12 http://collegeofsanmateo.edu/institutionalresearch/
Institutional Priorities, 2008-2011
http://collegeofsanmateo.edu/prie/planningdocs.asp
Five in Five College Strategies, http://collegeofsanmateo.edu/prie/planningdocs.asp

Student Learning Outcomes (SLOs) website:
http://www.collegeofsanmateo.edu/sloac/
Contact: David Locke, SLO Coordinator, Locke@smccd.edu,(650)574-6624
Also see PRIE site for SLO assessments' support: http://collegeofsanmateo.edu/prie/slos.asp

Section 2
This section contains the references that serve as data sources for the individual sections of the Comprehensive Program Review Form. Explanatory notes are included.

DEPARTMENT OR PROGRAM:
To identify programs on the comprehensive program review cycle, see *Rotation Schedule for Instructional Program Review, 2008-2014* at PRIE
website: http://collegeofsanmateo.edu/prie/program_review/programReview_forms.php

Also see *Listing of Programs Receiving Program Review Data from PRIE.*

I.   DESCRIPTION OF PROGRAM
- "Number of Sections" data from *Core Program and Student Success Indicators* (published by PRIE for each program)
- CSM Course Catalog
- Department records

II.   STUDENT LEARNING OUTCOMES
- SLO records maintained by the department
- CSM SLO Coordinator
- SLO Website: http://collegeofsanmateo.edu/sloac
- The definitions for the General Education (GE) SLOs can be found on the CSM SLOAC website.

III.   DATA EVALUATION
- Enrollment, WSCH, FTEF, and productivity data for each program can be found in *Core Program and Student Success Indicators.* (Published by PRIE.)

- Productivity is also commonly known as "LOAD." See *Glossary of Terms for Program Review* for definitions of key terms.

- Faculty Load: the ratio of the weekly contact hours (WSCH) of enrolled students and a faculty's hours of instruction per week. In other words, WSCH divided by FTE. ?

- The College's general target productivity will be recommended by the Budget Planning Committee.

IV.   STUDENT SUCCESS EVALUATION AND ANALYSIS
- *Educational Master Plan, 2008*
- *Educational Master Plan, Data Updates, 2011-12*
- *College Index, 2008/9-2011/12*
- *Five in Five College Strategies*
- *Institutional Priorities, 2008-2011*
- *Student Success (course completion and retention) data from the "Core Program and Student Success Indicators";*
- *Other reports published by PRIE regarding student success*

- *Previous Program Review and Planning reports*
- *other department records*

V.   REFLECTIVE ASSESSMENT OF INTERNAL AND EXTERNAL FACTORS AND PROGRAM/STUDENT SUCCESS
- *Educational Master Plan, 2008*
- *Educational Master Plan, Data Updates, 2011-12*
- *College Index, 2008/9-2011/12*
- *Five in Five College Strategies*
- *Institutional Priorities, 2008-2011*
- *Student Success (course completion and retention) data from the "Core Program and Student Success Indicators;*
- *Other reports published by PRIE regarding student success*
- *Previous Program Review and Planning reports*
- *Other department records*

a. About SWOT Analysis:
SWOT Analysis is a strategic planning tool used to evaluate the **S**trengths, **W**eaknesses, **O**pportunities, and **T**hreats involved in a project or initiative. It involves specifying the objective of the venture or project and identifying the internal and external factors that are favorable and unfavorable to achieving that objective. SWOT analysis considers both <u>internal</u> and <u>external</u> conditions.
Strengths: attributes of the organization that are helpful to achieving the objective.
Weaknesses: attributes of the organization or that are harmful to achieving the objective.
Opportunities: *external* conditions that are helpful to achieving the objective.
<u>T</u>hreats: *external* conditions that are harmful to achieving the objective

b. Reflect on data from *"Core Program and Student Success Indicators"*

VI.   Action Steps and Outcomes
- *Educational Master Plan, 2008*
- *Educational Master Plan, Data Updates, 2011-12*
- *College Index, 2008/9-2011/12*
- *Five in Five College Strategies*
- *Institutional Priorities, 2008-2011*
- *GE- or Certificate SLOs*
- *College Index, 2009-2010*
- *Course SLOs*
- *Department records*
- *Core Program and Student Success Indicators*
- *Previous Program Review and Planning reports*
- *Division work plan*

VII.   SUMMARY OF RESOURCES NEEDED TO REACH PROGRAM ACTION STEPS
- *Educational Master Plan, 2008*
- *Educational Master Plan, Data Updates, 2011-12*
- *College Index, 2008/9-2011/12*
- *Five in Five College Strategies*
- *Institutional Priorities, 2008-2011*
- *GE- or Certificate SLOs*
- *Course SLOs*

- *Department records*
- *Core Program and Student Success Indicators*
- *previous Program Review and Planning reports*

VIII. Course Outlines
- *Department records*
- *College Catalog*
- *Committee On Instruction*
- *Course Outlines (online)*
- *Office of the Vice President of Instruction*
- *Division Dean*