

Los Angeles Southwest College

Program Review

2010

Program: PHYSICAL SCIENCE

Initiator: Paul Doose, P. Toft, P. Scrivner, R. De

Reviewer 1: Glenn Yoshida, Leonard Apenahier

Reviewer 2: Angela Jenks

Date first draft of review was completed by initiator: October 2010

Instructions:

- Please answer all relevant areas as thoroughly as possible. Click on hyperlinks (indicated with an underline) to access additional information and instructions.
- **IF A PARTICULAR MODULE OR QUESTION DOES NOT APPLY, PLEASE INDICATE BY WRITING IN LARGE CAPITAL LETTERS: "NA"**
- The initiator should collaborate with as many department/program members as possible while completing the review.
- Reviewers should give as much feedback as necessary.

WE THE UNDERSIGNED CERTIFY WE HAVE READ THIS PROGRAM REVIEW AND ACCEPT IT AS ADEQUATE AND COMPLETE.

Glenn Yoshida _____ **10/31/11** _____
Department Chair Date

Dean Date

Vice-President Date

TABLE OF CONTENTS

Overview of Program Mission	3
Module One: Response to Demand	3
1.0 Enrollment and Class Size	3
Module Two: Demographics and Student Success	5
2.0 Ethnicity	5
2.1 Age and Gender	6
2.2 Retention	6
2.3 Successful Course Completion	6
2.4 Degrees and Certificates Awarded	7
Module Three: Program Resources	9
3.0 Facilities, equipment, and/or supplies	9
3.1 WSCH per FTEF	9
3.2 Professional development	10
Module Four: Educational Programs	12
4.0 Courses with outdated outlines	12
4.1 Inactive courses	12
4.2 New Courses	13
4.3 Vocational Programs	14
Module Five: Student Learning Outcomes (SLOs)	15
5.0 Program SLOs	15
5.1 Course SLOs	16
5.2 Certificate SLOs	18
5.3 Student awareness of SLOs	19
5.4 Use of SLO assessment in planning and decision-making	19
Module Six: Student Feedback	21
6.0 Data collection	21
6.1 Results	21
Module Seven: SWOC	23
Module Eight: Objectives from 2008-2009 Mini-Review	24
Module Nine: 2010 Program Review Objectives	25
Module Ten: Resource Priority Requests	27
Concluding Comments and Recommendations	28

Overview of Program Mission

Describe the program's mission as it relates to the [college's mission](#).

The Physical Science Program's mission is to: 1) provide support for students who are pursuing a science degree in disciplines such as Chemistry, Biology, Geology, and Physics; 2) fulfill general education requirements for the AA degree.

Module One: Enrollment Trends

Enrollment

	2007-2008	2008-2009	2009-2010
Day	168	239	299
Evening	255	336	393
Total	423	575	692

Average Class Size

	2007-2008	2008-2009	2009-2010
Day	42.0	59.8	74.8
Evening	25.5	33.6	39.3
Total	30.2	41.1	49.4

1.0 Describe the trends in **enrollment and average class size**.

Enrollment is increasing. Enrollment for 2009-2010 is 63% more than enrollment for 2007-2008.

Average class size is increasing. The average class size for 2009-2010 is 64% more than 2007-2009. The average class size in the evening is lower than during the day because all of the laboratory classes are only offered in the evening.

1.1 Given the data, what are the implications of these trends for your program? What must be done differently or kept the same given these trends?

The class room most often used for these classes is too small. However, new larger class rooms will be built starting in spring 2011. A remodeled Geology lab is planned for the LL Building Remodel that can also be used for Geography.

Los Angeles Southwest College is committed to providing an environment for quality learning to enrich the lives of our diverse population

Objective for Module One

Write an objective, if applicable, to address the identified trends. Objectives should be linked to the LASC [Strategic Planning Goals](#).

Objective	1. Build new class rooms for Geology and Geography courses.
Planned Activities	1. Participate in the planning for the building of new class rooms for Geology and Geography classes.
Individual Responsible	Paul Doose
Start Date	Fall 2010
Method of Evaluation	Review of accomplishments and availability of new, appropriately-sized classrooms.

Module Two: Demographics and Student Success

Ethnicity

Ethnicity (%)	2007-2008	2008-2009	2009-2010
Asian	0.7%	0.7%	1.3%
Black/African American	75.7%	72.2%	69.2%
Hispanic	18.0%	16.5%	22.0%
Native American	0.5%	0.5%	0.4%
Pacific Islander	0.5%	0.0%	0.1%
Caucasian/White	1.7%	0.2%	1.2%
Other	0.7%	0.9%	0.6%
Unknown/Decline To State	2.4%	9.0%	5.2%

2.0 Given the data, describe the trend in **ethnicity**. What are the implications for your program?

Our demographics are slowly changing from African American to Hispanic. Increasingly our students are dealing with the issues of English as a second language.

Age

Age Group	2007-2008	2008-2009	2009-2010
19 and under	32.4%	22.1%	37.1%
20-24	29.1%	39.3%	31.6%
25-29	13.9%	11.7%	9.4%
30-34	5.7%	7.3%	8.2%
35-39	6.6%	5.4%	4.3%
40-49	9.0%	9.9%	5.5%
50+	3.3%	4.3%	3.8%

Gender

Gender	2007-2008	2008-2009	2009-2010
Female	65.2%	68.0%	68.1%
Male	34.8%	32.0%	31.9%

- 2.1 Given the data, describe the trends in **age and gender**. To what do you attribute the age and gender patterns?

LASC has increased efforts to recruit from local High Schools which is seen in the younger ages.

Retention

To access retention data according to ethnicity, gender, or age group, click [here](#).

	2007-2008	2008-2009	2009-2010
% Day	79.8%	88.7%	89.0%
% Evening	87.5%	90.8%	86.0%
% Total	84.4%	89.9%	87.3%

- 2.2 Given the data, describe the trend in **retention** that can be identified. What are the implications for your program?

Although retention rates vary somewhat they are mostly level.

Success Rates

To access success rate data according to ethnicity, gender, or age group, click [here](#).

	2007-2008	2008-2009	2009-2010
% Day	47.6%	36.8%	51.8%
% Evening	76.5%	71.4%	59.5%
% Total	65.0%	57.0%	56.2%

- 2.3 Given the data, describe the trend in **successful course completion** rates.

Although day time success rates vary somewhat they are mostly level.
Evening success rates show a decrease.

Los Angeles Southwest College is committed to providing an environment for quality learning to enrich the lives of our diverse population

2.3.1 To what do you attribute this trend in successful course completion? Include any observations from the classroom, school, or community environments.

The lower success rate shown could reflect the higher average class size.

Also, the number of faculty teaching in the program has decreased as the student numbers went up (see section 3.1 and 3.1.1).

2.3.2 What are the implications of this trend in successful course completion for your program?

It appears to show that increasing average class size reduces student success.

Degrees and Certificates Awarded

	2007-2008	2008-2009	2009-2010
Degrees	0	0	0
Certificates	0	0	0
Skills Certificates	0	0	0

2.4 Given the data, describe the trend in **degrees and certificates** awarded.

N/A

There are no Certificates or Skill Certificates offered in these disciplines.

2.4.1 To what do you attribute this trend in degrees and certificates awarded? Include any observations from the classroom, school, or community environments.

N/A

There is an AA Degree in Geology offered, however, the Physics 37 course required for that degree was not offered during 2007-2010.

2.4.2 What are the implications of this trend in degrees and certificates awarded for your program?

No AA degree in Geology was awarded due to the fact that the calculus-based Physics courses were not offered and are core courses for the program. Adjunct faculty cannot update course outlines for Physics 37, 38, and 39 (calculus-based) without compensation. A full-time Physics instructor would be able to not only update outlines but also teach required courses and review any applicable prerequisites needed for success. It shows the need for a Full-Time Physics Instructor.

Los Angeles Southwest College is committed to providing an environment for quality learning to enrich the lives of our diverse population

Objective for Module Two

Write an objective, if applicable, to address the identified trends. Objectives should be linked to the LASC [Strategic Planning Goals](#).

Objective	LASC will hire a Full-Time Physics Instructor.
Planned Activities	Department will submit a request to hire the Physics instructor through the Academic Senate and through the IDP.
Individual Responsible	Department Chair
Start Date	Fall 2010
Method of Evaluation	Review of accomplishments

Module Three: Program Resources

- 3.0 Discuss any needs in facilities, equipment, and/or supplies to support program goals. If requesting additional support, develop an objective.

The program is seeing an increase in students while experiencing a decrease in faculty. Also, large numbers of students are being turned away. The program needs a large lecture room, a separate laboratory room, and a new storeroom. Additional maps and other teaching aids are needed while maintaining the current supply and transportation budget.

Most importantly, additional course offering and the faculty to teach them are needed.

WSCH per FTEF

	2007	2008	2009
Geology	602	862	922
Physical Science	299	408	728

- 3.1 Given the data, describe the trend in [WSCH per FTEF](#).

The WSCH per FTEF in Geology has increased by 53% from 2007 to 2009.

The WSCH per FTEF in Physical Science has increased by 143% from 2007 to 2009.

- 3.1.1 Describe how this trend will impact your program. Does the program make effective use of its personnel? Include any need for increasing or reducing your program faculty.

The trends result from a significant increase in the number of students while both the faculty and number of sections have decreased. The data does not show the large number of students being turned away.

The increase in average class size appears to have lead to a decrease in success rate (section 2.3).

The program would benefit from an increase in course offerings and an increase in faculty.

Los Angeles Southwest College is committed to providing an environment for quality learning to enrich the lives of our diverse population

3.2 List each faculty member in your program. Mark all professional development activities engaged in by each faculty member in your program since Fall 2005. (To add additional rows: Hit “Tab” at the end of the last row to add an additional blank row. Select the text and check boxes from the row above and press “Edit-Copy.” Click on the blank row and press “Edit-Paste”.)

Name	Activities (Mark all that apply)	Comments (Optional)
Rupa De	<input type="checkbox"/> Conferences <input type="checkbox"/> Off-Campus Presentations <input type="checkbox"/> Publications <input type="checkbox"/> Grants <input checked="" type="checkbox"/> On-Campus Presentations <input type="checkbox"/> Other	Attended flex workshop on Smart Classrooms and Web-based Programs at LASC.
Paul Doose	<input type="checkbox"/> Conferences <input type="checkbox"/> Off-Campus Presentations <input type="checkbox"/> Publications <input type="checkbox"/> Grants <input type="checkbox"/> On-Campus Presentations <input type="checkbox"/> Other	Data not available
	<input type="checkbox"/> Conferences <input type="checkbox"/> Off-Campus Presentations <input type="checkbox"/> Publications <input type="checkbox"/> Grants <input type="checkbox"/> On-Campus Presentations <input type="checkbox"/> Other	
	<input type="checkbox"/> Conferences <input type="checkbox"/> Off-Campus Presentations <input type="checkbox"/> Publications <input type="checkbox"/> Grants <input type="checkbox"/> On-Campus Presentations <input type="checkbox"/> Other	
	<input type="checkbox"/> Conferences <input type="checkbox"/> Off-Campus Presentations <input type="checkbox"/> Publications <input type="checkbox"/> Grants <input type="checkbox"/> On-Campus Presentations <input type="checkbox"/> Other	
	<input type="checkbox"/> Conferences <input type="checkbox"/> Off-Campus Presentations <input type="checkbox"/> Publications <input type="checkbox"/> Grants <input type="checkbox"/> On-Campus Presentations <input type="checkbox"/> Other	
	<input type="checkbox"/> Conferences <input type="checkbox"/> Off-Campus Presentations <input type="checkbox"/> Publications <input type="checkbox"/> Grants <input type="checkbox"/> On-Campus Presentations <input type="checkbox"/> Other	
	<input type="checkbox"/> Conferences <input type="checkbox"/> Off-Campus Presentations <input type="checkbox"/> Publications <input type="checkbox"/> Grants <input type="checkbox"/> On-Campus Presentations <input type="checkbox"/> Other	

Los Angeles Southwest College is committed to providing an environment for quality learning to enrich the lives of our diverse population

Objective for Module Three

Write an objective, if applicable, to address the identified trends. Objectives should be linked to the LASC [Strategic Planning Goals](#).

Objective	1. Offer new courses such as Historical Geology and Laboratory, Oceanography, Geology of California, and Field Geology.
Planned Activities	1. Request that the new courses be offered and appropriate Part-Time faculty hired.
Individual Responsible	Paul Doose and Department Chair
Start Date	Fall 2010
Method of Evaluation	Review of accomplishments

Module Four: Educational Programs

4.0 Identify all program courses listed in the [catalog](#) that are due to be updated (i.e., course outlines were last updated in 2006 or earlier). Describe plans for updating these outlines. Click [here](#) to access the most recent course outline summary that lists LASC courses and their update status. (To add additional rows: Hit “Tab” at the end of the last row to add an additional blank row. Select the boxes from the row above and press “Edit-Copy.” Click on the blank row and press “Edit-Paste”.)

Outdated Course	Last Updated	Plan for Updating	Update completion deadline
Geography 2	Spring 97		

4.1 For courses that have not been offered in over three years, identify your plans for the upcoming year. Provide justification or extenuating circumstances to keep these inactive courses listed. (**Note:** All course changes, additions, and removals must be approved by the Curriculum Committee.) Click [here](#) for a list of courses that have not been offered since Fall 2007. (To add additional rows: Hit “Tab” at the end of the last row to add an additional blank row. Select the text and check boxes from the row above and press “Edit-Copy.” Click on the blank row and press “Edit-Paste”.)

Inactive Course	Action	Comments
Geography 2	<input type="checkbox"/> Recommend Archive <input type="checkbox"/> Remain listed <input type="checkbox"/> Other (please detail):	
	<input type="checkbox"/> Recommend Archive <input type="checkbox"/> Remain listed <input type="checkbox"/> Other (please detail):	
	<input type="checkbox"/> Recommend Archive <input type="checkbox"/> Remain listed <input type="checkbox"/> Other (Please detail):	

Los Angeles Southwest College is committed to providing an environment for quality learning to enrich the lives of our diverse population

	<input type="checkbox"/> Recommend Archive <input type="checkbox"/> Remain listed <input type="checkbox"/> Other (Please detail):	
	<input type="checkbox"/> Recommend Archive <input type="checkbox"/> Remain listed <input type="checkbox"/> Other (Please detail):	

4.2 Enter new courses that are planned. (**Note:** All course changes, additions, and removals must be approved by the Curriculum Committee.) (To add additional rows: Hit “Tab” at the end of the last row to add an additional blank row. Select the text and check boxes from the row above and press “Edit-Copy.” Click on the blank row and press “Edit-Paste”.)

New Course	Justification (check all that apply)
Geography of California	<input type="checkbox"/> Advisory committee <input type="checkbox"/> Prerequisites <input type="checkbox"/> Integration of technology <input checked="" type="checkbox"/> Similar CSU/UC lower division requirements <input type="checkbox"/> Course needed for sequence <input type="checkbox"/> Integrating current trends and new information <input type="checkbox"/> Other (please detail):
World Regional Geography	<input type="checkbox"/> Advisory committee <input type="checkbox"/> Prerequisites <input type="checkbox"/> Integration of technology <input checked="" type="checkbox"/> Similar CSU/UC lower division requirements <input type="checkbox"/> Course needed for sequence <input type="checkbox"/> Integrating current trends and new information <input type="checkbox"/> Other (please detail):
Physical Geography Laboratory	<input type="checkbox"/> Advisory committee <input type="checkbox"/> Prerequisites <input type="checkbox"/> Integration of technology <input checked="" type="checkbox"/> Similar CSU/UC lower division requirements <input type="checkbox"/> Course needed for sequence <input type="checkbox"/> Integrating current trends and new information <input type="checkbox"/> Other (please detail):

4.3 Vocational Programs (if applicable; if not, skip to Objective for Module Four)

4.3.1 How does your program meet **labor market demand**? Cite specific examples and sources.

N/A

Los Angeles Southwest College is committed to providing an environment for quality learning to enrich the lives of our diverse population

4.3.2 Do your program have an **advisory board**? How often does your advisory board meet? When was the last meeting? List outcome(s) of your advisory board meetings.

N/A

4.3.3 What **employment data** do you have that demonstrates the effectiveness of your program?

N/A

Objective for Module Four

Write an objective, if applicable, to address the identified trends. Objectives should be linked to the LASC [Strategic Planning Goals](#).

Objective	
Planned Activities	
Individual Responsible	
Start Date	
Method of Evaluation	

Module Five: Student Learning Outcomes (SLOs)

- 5.0 Identify 2-5 [student learning outcomes](#) for each of the **degree programs** you offer and provide an [assessment strategy](#) for each outcome. In the following chart,
- Indicate the assessment strategy and when assessment will occur (Fall 2010/Spring 2011)
 - If any of your program SLOs were already assessed, include analysis of assessment results and plans for improvement of teaching and learning. Include overall results from program faculty dialogue (attach minutes from meetings as evidence of this dialog).

<u>LASC Institutional SLOs</u>	
1.	Communication (Oral and Written Skills) <ul style="list-style-type: none"> ○ use language (oral and written) and non-verbal modes of communication appropriate to the audience and purpose.
2.	Cognition (Reading Comprehension, Computational Skills, and Critical Thinking) <ul style="list-style-type: none"> ○ use critical thinking and computational skills to analyze, synthesize, and evaluate ideas and information.
3.	Information Competency (Information Competency and Technological Literacy) <ul style="list-style-type: none"> ○ utilize research skills necessary to achieve educational, professional, and personal objectives.
4.	Social Responsibility (Responsible Citizenship and Valuing Diversity) <ul style="list-style-type: none"> ○ demonstrate sensitivity to and respect for others and participate actively in group and civic decision making.
5.	Personal and Professional Development (Employability and Confidence Building) <ul style="list-style-type: none"> ○ demonstrate self-management, maturity, and growth through practices that promote physical, mental, and emotional well-being.

- If applicable, indicate which Institutional SLO (#1-5) the program SLO is linked to. Click [here](#) for a link to all of the degree/certificate programs that should have at least 2 SLOs. Click [here](#) to see a sample entry for this form.

If your program offers more than one degree, you will need to expand this chart to identify SLOs for each one. To do so, select the entire chart and press “Edit-Copy.” Click in the blank space below the original chart and press “Edit-Paste.”

Program Title: Physical Science				
Program SLO	Target Courses to be Assessed	Assessment Strategy & Timing	Results and Plans for Improvement (if applicable)	Related Institutional SLO (mark all that apply)
1. The student will be able to demonstrate an understanding of basic concepts of a physical science.	1. Physical Science 1 2. Geology 1	Embedded questions in final exam. X <input type="checkbox"/> Fall 2010 X <input type="checkbox"/> Spring 2011		<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
2. The student will be able to	1. Physical	Embedded questions in final exam.		<input type="checkbox"/> 1 <input type="checkbox"/> 2

demonstrate an understanding of the Scientific Method.	Science 1 2. Geology 1	X <input type="checkbox"/> Fall 2010 X <input type="checkbox"/> Spring 2011		<input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
3. The student will be able to demonstrate critical thinking.	1. Physical Science 1 2. Geology 1	Embedded questions in final exam. X <input type="checkbox"/> Fall 2010 X <input type="checkbox"/> Spring 2011		<input type="checkbox"/> 1 X <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
4.		<input type="checkbox"/> Fall 2010 <input type="checkbox"/> Spring 2011		<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
5.		<input type="checkbox"/> Fall 2010 <input type="checkbox"/> Spring 2011		<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5

- 5.1 List each course in your program as well as each course's SLOs according to the most recent course outline of record. (Click [here](#) to access a master list of all courses and recorded SLOs.) Indicate whether the course SLO ties directly to a program SLO. Indicate whether the course SLO ties directly to an institutional SLO.

If the course ties in to multiple degree programs with separate SLOs, use the text box to describe the relationship between the course SLO, program SLOs, and Institutional SLOs.

To add additional rows for more courses: Hit "Tab" at the end of the last row to add an additional blank row. Select the text and check boxes from the rows above (for the course, three SLOs and check boxes) and press "Edit-Copy." Click on the blank row and press "Edit-Paste".

Course Name, Number, and SLOs		Related Program SLO (mark all that apply)	Related Institutional SLO (mark all that apply)
Example: Course name: Chemistry 51	SLO 1: demonstrate proficiency in performing conversions within the metric or English systems, or between the English and metric systems. (70% meets expectation)	<input checked="" type="checkbox"/> 1 <input type="checkbox"/> 4 <input type="checkbox"/> 2 <input type="checkbox"/> 5 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 4 <input checked="" type="checkbox"/> 2 <input type="checkbox"/> 5 <input type="checkbox"/> 3
	SLO 2: demonstrate proficiency in naming a compound given its chemical formula or vice versa (70% meets expectation)	<input type="checkbox"/> 1 <input type="checkbox"/> 4 <input type="checkbox"/> 2 <input type="checkbox"/> 5 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 4 <input type="checkbox"/> 2 <input type="checkbox"/> 5 <input type="checkbox"/> 3

Course name: Physical Science 14	SLO 1: The student will be able to demonstrate an understanding of basic concepts of physics.	<input type="checkbox"/> 1 <input type="checkbox"/> 4 <input type="checkbox"/> 2 <input type="checkbox"/> 5 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 4 <input type="checkbox"/> 2 <input type="checkbox"/> 5 <input type="checkbox"/> 3
	SLO 2: The student will be able to demonstrate an understanding of basic concepts of chemistry.	<input type="checkbox"/> 1 <input type="checkbox"/> 4 <input type="checkbox"/> 2 <input type="checkbox"/> 5 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 4 <input type="checkbox"/> 2 <input type="checkbox"/> 5 <input type="checkbox"/> 3
	SLO 3: The student will be able to demonstrate critical thinking.	<input type="checkbox"/> 1 <input type="checkbox"/> 4 <input type="checkbox"/> 2 <input type="checkbox"/> 5 X <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 4 X <input type="checkbox"/> 2 <input type="checkbox"/> 5 <input type="checkbox"/> 3
Course name: Physical Science 1	SLO 1: The student will be able to demonstrate an understanding of basic concepts of physics.	X <input type="checkbox"/> 1 <input type="checkbox"/> 4 <input type="checkbox"/> 2 <input type="checkbox"/> 5 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 4 <input type="checkbox"/> 2 <input type="checkbox"/> 5 <input type="checkbox"/> 3
	SLO 2: The student will be able to demonstrate an understanding of basic concepts of chemistry.	X <input type="checkbox"/> 1 <input type="checkbox"/> 4 <input type="checkbox"/> 2 <input type="checkbox"/> 5 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 4 <input type="checkbox"/> 2 <input type="checkbox"/> 5 <input type="checkbox"/> 3
	SLO 3: The student will be able to demonstrate an understanding of the Scientific Method.	<input type="checkbox"/> 1 <input type="checkbox"/> 4 X <input type="checkbox"/> 2 <input type="checkbox"/> 5 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 4 <input type="checkbox"/> 2 <input type="checkbox"/> 5 <input type="checkbox"/> 3
	SLO 4: The student will be able to demonstrate critical thinking.	<input type="checkbox"/> 1 <input type="checkbox"/> 4 <input type="checkbox"/> 2 <input type="checkbox"/> 5 X <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 4 X <input type="checkbox"/> 2 <input type="checkbox"/> 5 <input type="checkbox"/> 3
Course name: Geology 6	SLO 1: The student will be able to demonstrate an understanding of how the Earth system functions.	X <input type="checkbox"/> 1 <input type="checkbox"/> 4 <input type="checkbox"/> 2 <input type="checkbox"/> 5 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 4 <input type="checkbox"/> 2 <input type="checkbox"/> 5 <input type="checkbox"/> 3
	SLO 2: The student will be able to demonstrate an understanding of Plate Tectonics and how it relates to other geologic processes.	X <input type="checkbox"/> 1 <input type="checkbox"/> 4 <input type="checkbox"/> 2 <input type="checkbox"/> 5 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 4 <input type="checkbox"/> 2 <input type="checkbox"/> 5 <input type="checkbox"/> 3
	SLO 3: The student will be able to demonstrate critical thinking.	<input type="checkbox"/> 1 <input type="checkbox"/> 4 <input type="checkbox"/> 2 <input type="checkbox"/> 5 X <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 4 X <input type="checkbox"/> 2 <input type="checkbox"/> 5 <input type="checkbox"/> 3
Course name:	SLO 1: The student will be able to	X <input type="checkbox"/> 1 <input type="checkbox"/> 4	<input type="checkbox"/> 1 <input type="checkbox"/> 4

Geology 1	demonstrate an understanding of how the Earth system functions.	<input type="checkbox"/> 2 <input type="checkbox"/> 5 <input type="checkbox"/> 3	<input type="checkbox"/> 2 <input type="checkbox"/> 5 <input type="checkbox"/> 3
	SLO 2: The student will be able to demonstrate an understanding of Plate Tectonics and how it relates to other geologic processes.	X <input type="checkbox"/> 1 <input type="checkbox"/> 4 <input type="checkbox"/> 2 <input type="checkbox"/> 5 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 4 <input type="checkbox"/> 2 <input type="checkbox"/> 5 <input type="checkbox"/> 3
	SLO 3: The student will be able to demonstrate an understanding of the Scientific Method.	<input type="checkbox"/> 1 <input type="checkbox"/> 4 X <input type="checkbox"/> 2 <input type="checkbox"/> 5 <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 4 <input type="checkbox"/> 2 <input type="checkbox"/> 5 <input type="checkbox"/> 3
	SLO 4: The student will be able to demonstrate critical thinking.	<input type="checkbox"/> 1 <input type="checkbox"/> 4 <input type="checkbox"/> 2 <input type="checkbox"/> 5 X <input type="checkbox"/> 3	<input type="checkbox"/> 1 <input type="checkbox"/> 4 X <input type="checkbox"/> 2 <input type="checkbox"/> 5 <input type="checkbox"/> 3

- 5.2 Identify 2-5 Student learning Outcomes for any [certificate programs](#) within your area. In the following chart,
- List the certificate program, SLOs, and target courses.
 - Indicate the assessment strategy and when the assessment will occur (**Fall 2010 or Spring 2011**).
 - If any of your program SLOs were already assessed, include analysis of assessment results and plans for improvement of teaching and learning. Include overall results from program faculty dialogue (attach minutes from meeting as evidence).
 - If applicable, indicate which Institutional SLO (#1-5) the program SLO is linked to.

If your program offers more than one certificate, you will need to expand this chart to identify SLOs for each one. To do so, select the entire chart and press “Edit-Copy.” Click in the blank space below the original chart and press “Edit-Paste.”

Certificate Program and SLO	Target Courses	Assessment Strategy & Timing	Results and Plans for Improvement (if applicable)	Related Institutional SLO (mark all that apply)
Name of Certificate Program:				
SLO 1:		<input type="checkbox"/> Fall 2010 <input type="checkbox"/> Spring 2011		<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
SLO 2:		<input type="checkbox"/> Fall 2010		<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3

		<input type="checkbox"/> Spring 2011		<input type="checkbox"/> 4 <input type="checkbox"/> 5
SLO 3:		<input type="checkbox"/> Fall 2010 <input type="checkbox"/> Spring 2011		<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
SLO 4:		<input type="checkbox"/> Fall 2010 <input type="checkbox"/> Spring 2011		<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
SLO 5:		<input type="checkbox"/> Fall 2010 <input type="checkbox"/> Spring 2011		<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5

5.3 How are course and/or program student learning outcomes communicated to students?

They are in the course syllabus.

5.3.1 How do you measure whether students understand what the outcomes mean?

SLOs and assessment strategies are explained to students periodically, for example, in Physical Science 1 classes. SLOs are also phrased as questions in Geology 1 by the instructor to get feedback from students. Actual measuring of student understanding of SLOs is not currently part of class activities.

5.3.2 If applicable, how can students self-assess using rubrics, etc. in relation to the SLOs.

Some publishers have web-based self-assessment instruments that students are encouraged to utilize.

5.4 How will the results of assessment be used for planning and decision-making? How were the results discussed both internal and external to your program? Did students participate in the reviews of outcomes, criteria, curriculum design, or related activities? If so, describe.

Los Angeles Southwest College is committed to providing an environment for quality learning to enrich the lives of our diverse population

Physical Science 14 SLO was assessed and after analysis, the instructor incorporated more real world examples and applications of physical science as part of instruction.

Objective for Module Five

Write an objective, if applicable, to address future plans to develop, assess, and/or improve Student Learning Outcomes. List any objectives resulting from SLO assessment analysis. Objectives should be linked to the LASC [Strategic Planning Goals](#).

Objective	To assess additional SLOs and analyze the results.
Planned Activities	1. Assess SLOs. 2. Analyze the results of those assessments.
Individual Responsible	Paul Doose
Start Date	December 16, 2010.
Method of Evaluation	Assessment strategies indicated on the course outline or SLO addendum will be implemented.

Module Six: Student Feedback

6.0 Data collection

6.0.1 How many surveys were collected from students?

None

6.0.2 How many students participated in focus groups?

None

6.0.3 How many students participated in interviews?

None

6.0.4 How many students participated in other activities in which students provided feedback to your program? Describe these activities.

None

6.1 Describe the results of the data accumulated in the above methods.

None

Los Angeles Southwest College is committed to providing an environment for quality learning to enrich the lives of our diverse population

Objective for Module Six

Write an objective, if applicable, to address student feedback and concerns. Objectives should be linked to the LASC [Strategic Planning Goals](#).

Objective	Gather student feedback data on their understanding of SLOs.
Planned Activities	Conduct student surveys.
Individual Responsible	Paul Doose
Start Date	Fall 2010
Method of Evaluation	A statistical analysis will be conducted on the surveys.

Module Seven: SWOC

Based on your program review, summarize:

Program Strengths

The program relies primarily on one Full-Time Faculty member that attracts large numbers of students to his classes.

The disciplines in the Physical Science Program, Geology, Geography and Physical Science, offer classes that are popular with students that intend to transfer to four year institutions.

LASC has been kind in its support for transportation for field trips, as well as, laboratory equipment and supplies.

Program Weaknesses

The program has been taught in cramped rooms. Course sections and faculty have decreased due to budget.

Program Opportunities

New facilities for the Physical Science Program are due to be built starting in Spring 2011. This will provide the space for new course offering. The F&E budget for the construction should be able to provide some additional maps and other teaching aids.

Program Challenges

Budget is the largest challenge for the Physical Science Program.

The California State budget is restricted at a time when the economy is sending us large numbers of student that need training for new carriers. This reduces the opportunity for expanded course offering to serve these potential students.

Even in good times the Los Angeles Community College District uses an Allocation Model for distributing money to its nine colleges that does not provide Los Angeles Southwest College enough money to cover adequate janitors for the new building, reasonable cost for staff and services, and the cost of faculty needed to earn our base level of state funding, all at the same time. This is the biggest challenge to the expansion of the Physical Science Program.

Module Eight: Objectives from 2008-2009 Mini-Review

8.0 List each of the objectives from your program’s 2008-2009 mini-review. (Click [here](#) to access the objectives from the mini-reviews.) Indicate the current status and outcome of each objective. (To add additional rows: Hit “Tab” at the end of the last row to add an additional blank row. Select the text and check boxes from the row above and press “Edit-Copy.” Click on the blank row and press “Edit-Paste”.)

Objective	Status Completed = C In Progress = IP Not Implemented = NI	Outcome If “C” evaluate the result If “IP” evaluate the status and plans for continuation of the objective If “NI” state whether the objective will be pushed to the next year of dropped entirely and the rationale behind the decision
Support activities that enhance learning such as field trips.	<input checked="" type="checkbox"/> Completed <input type="checkbox"/> In Progress <input type="checkbox"/> Not Implemented	Field trips and the funding to support them has continued at a constant level.
Increase the number of tutors in Physical Science from zero to some positive number.	<input type="checkbox"/> Completed <input checked="" type="checkbox"/> In Progress <input type="checkbox"/> Not Implemented	We continue to request tutors, but as yet, none have been provided. Students continue to request tutors.
Write the Course Outline for Environmental Science 1 and Oceanography 1. Then offer those courses in the program.	<input checked="" type="checkbox"/> Completed <input type="checkbox"/> In Progress <input type="checkbox"/> Not Implemented	The campus hired a Full-Time Faculty member that is an environmental scientist, but assigned him to a different Program. The Environmental Science Course Outline was written and the class is being offered. Oceanography 1, however, has not been written or offered.

Module Nine: 2010 Program Review Objectives

9.0 Rank and list all objectives that have been developed in this program review.

Rank	Objective	Planned Activities	Individual Responsible	Start Date	End Date
1.	1. Build new class rooms for Geology and Geography courses.	1. Participate in the planning for the building of new class rooms for Geology and Geography classes.	P. Doose, G. Yoshida	Fall 2010	Spring 2012
2.	LASC will hire a Full-Time Physics Instructor.	Department will submit a request to hire the Physics instructor through the Academic Senate and through the IDP.	G. Yoshida	Fall 2010	Spring 2011
3.	Offer new courses such as Historical Geology and Laboratory, Oceanography, Geology of California, and Field Geology.	Request that the new courses be offered, appropriate Part-Time faculty hired and develop course outlines.	G. Yoshida, Geology faculty	Fall 2010	Fall 2012
4.	To assess additional SLOs and analyze the results.	To assess additional SLOs and analyze the results.	Physical Science faculty	Fall 2010	ongoing

Los Angeles Southwest College is committed to providing an environment for quality learning to enrich the lives of our diverse population

5.	Gather student feedback data on their understanding of SLOs.	Conduct student surveys	Physical Science faculty	Fall 2010	ongoing

Los Angeles Southwest College is committed to providing an environment for quality learning to enrich the lives of our diverse population

Module Ten: Resource Priority Requests

Note: All resources requests must be linked to a program objective and to a [strategic plan goal/objective](#).

Rank	Resources Requested	Quantity /Units	Program Objective Number Related to this Request	Strategic Goal/Objective Number Related to this Request	Rationale for the Request	Anticipated Total Cost
	N/A					

Concluding Comments and Recommendations

- 1. Discuss any special program accomplishments or achievements that have not already been addressed.**

Field trips conducted by Dr. Doose to San Andreas Fault and along PCH (coastal drive) are always popular with students and provide opportunities for real-world applications of material taught in the classroom.

- 2. Discuss anything else you would like to share about your program that has not already been addressed.**

N/A

- 3. List a minimum of (3) recommendations for the program.**

- 1) LASC should hire a Full-Time Physics Instructor
- 2) Offer new courses such as Historical Geology and Laboratory, Oceanography, Geology of California, and Field Geology
- 3) Assess additional SLOs and analyze the results