

**Saddleback College
Program Review**



**Environmental
STUDIES**

Submitted Fall 2006

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Program Review Team Members and Approvals

Program Review Team Chair:

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Division Dean

Program Review Chair

Academic Senate President

Vice President of Instruction

Program Review Checklist

Date Completed	Action
January 2006	Contact Program Review Chair for orientation
January 2006	Form Program Review Team
Spring 2006	Gather documents (Org Chart/Staffing Profile/SLO Assessment Forms/Data Sets)
Spring 2006	Solicit input from faculty and students
Spring 2006	Determine if additional research is needed
April 2006	Contact College Research Analyst if necessary
Spring and Fall 2006	Write Program Review report
TBD	Submit report to Dean and Program Review Chair for approval
TBD	Report submitted to Academic Senate for approval
TBD	Report submitted to Office of Instruction for approval
TBD	Report submitted to College President and the Office of Institutional Effectiveness
TBD	Report posted to the IE web site
TBD	Open, formal presentation to the Program Review Committee and other interested parties

Section I: Program Overview

A. The Mission of the Program and its Link to the College's Mission and Goals

A1. Overview

The mission, philosophy, functions and goals of the South Orange County Community College District require that a systematic review of all Programs/Curricula be conducted to ensure quality and relevance, and the effective and efficient use of resources. This systematic review is the process of Program Review and Improvement, which must be a cooperative process, utilizing the knowledge and expertise of faculty, administrators, current and former students, employers and advisory committee members.

The results of program review will be incorporated into the strategic planning processes that the college Budget and Planning Council presents to the college. Program Review will also support the Western Association of Schools and Colleges (WASC) accreditation standards, interface with the college Enrollment Management Plan and most importantly, provide information for program planning and improvement. The major objectives of Program Review are to measure and improve the quality of instructional programs, support services and student learning

An overview of the Environmental Studies Department and key recommendations are presented in this section. The overview details the mission and goals of Saddleback College, the Advanced Technology and Applied Science Division (ATAS), and the Environmental Studies Department. The main document provides recommendations for the: curriculum, instruction, student success, staffing and resources, staff development, community outreach, articulation, and accreditation.

A2. College Mission and Goals

Mission Statement of Saddleback College

To provide access to learning opportunities that promote student success; to foster intellectual growth, individual expression, and character development; and to support a dynamic and diverse environment of innovation and collegiality.

Goals of Saddleback College

The primary goal of Saddleback College is to provide a comprehensive postsecondary education and a full range of student services. Emphasis is placed on open access to all students, including a changing and diverse student population. Academic success and student achievement are joint responsibilities of the students, the staff, and the College. To this end, the College will:

- Provide educational programs leading to the Associate in Arts and Associate in Science degrees.
- Provide a comprehensive, broad range of high-quality courses and programs to enable students to pursue their educational objectives and career goals.
- Provide a meaningful general education program including baccalaureate-level transfer and occupational curricula.
- Provide necessary developmental, remedial, and basic skills instruction so that students may be successful in their chosen course of study.
- Provide access for the community to the educational, cultural, and recreational resources of the College.
- Provide counseling and other support services which are responsive to the needs of the students.
- Provide opportunities in continuing education and community services, including courses for skills upgrading and retraining for professionals and life-long learning for older adults.
- Provide opportunities for the promotion of economic development within the scope of the mission of the District and the College.

A3. Mission Statement of the Advanced Technology and Applied Science Division

To provide quality technical instruction and career preparation to our students and to participate in the vision and mission of Saddleback College.

A4. Goals of the Environmental Studies Department

The goals of the Environmental Studies Department are:

- to provide environmental education leading to AA and AS degrees and certificates.
- to prepare students with the knowledge, skills, and hands-on experience needed for both entry-level and advanced employment in the environmental field.
- to provide skill-upgrading for professionals already at work in the environmental field.
- to prepare students of Environmental Studies for transfer to 4-year institutions through articulated course offerings and AA and AS degree programs.
- to provide general education courses in environmental studies for students of all majors.
- to promote social responsibility.

B. Historical Background and Unique Characteristics of the Program

The Environmental Studies program was established in 1976 with the commitment to educate the residents of Southern California on current environmental issues. It was a perfect place to establish the program since Southern California faces practically every

major environmental issue that is occurring worldwide including habitat destruction, population growth, water pollution, air pollution, and invasive species. Therefore, Southern California offers a unique laboratory for the Environmental Studies program at Saddleback College.

The Environmental Studies program began in 1977 with a part-time staff and an advisory committee. The program was unique from its inception. Several core courses were cross-listed with other disciplines in the sciences and later the social sciences, emphasizing the interdisciplinary nature of Environmental Studies. This pattern remains a successful part of the program today. To our knowledge, no other community college comes close to the longevity of our program, surviving budget and OSH cuts, and the effect of sifting through 5 divisions and a long parade of administrative oversight.

The Environmental Studies program has been primarily aimed at transfer students, with the notable exception of the addition of a certificate in Ecological Restoration granted by the State Chancellor's Office in 1999. Ecological restoration is a growing field as a result of habitat destruction and invasive species. There is no other community college in Orange County that offers a certificate in Ecological Restoration.

The restoration ecology classes and the naturalist training program are unique in the community college system and have combined a range of classes and experts that link jobs with academic work. The ability to link applied student behavior to things that are being studied is a superior learning concept. This physical action reinforces learning but more importantly instills empowerment and usefulness. The classes provide practitioner knowledge rather than just academic information and emphasize serving the greater environment.

The Environmental Studies program also houses the Outdoor Classroom which is a natural environment that contains only California native species. The purpose of the Outdoor Classroom is to provide a living laboratory for environmental studies, biology, horticulture, and even graphic design students. You can find typical plants from different local ecosystems including, coastal sage scrub, grassland, marsh, oak woodland, chaparral, and riparian. There is also an area that is devoted to California wildflowers. There is even a small amphitheater that is available for presentations or lectures. The Outdoor Classroom is also open to the public as a natural setting where they can connect with nature.

C. Progress Since the Last Program Review

This is the first program review to be conducted.

D. Current Strengths, Opportunities, and Challenges

D1. Strengths

The emphasis within the program has been and remains innovation, quality, and a dynamic curricula reflecting the most academically sound directions in the discipline. Our transfer students have excelled in environmental programs at UC Irvine, UC Santa Cruz, UC Santa Barbara, UC Davis, and many state universities. Our non-transfer students include many of the county park rangers and other local environmental jobs.

The Environmental Studies department has the great ability of offering courses for students who are interested in transferring to a four year university as well as offering courses that prepare students for jobs in the environmental field. The Environmental Studies department offers a broad range of classes that include general education classes as well as specialty courses. There is not another community college in Orange County that offers the variety of environmental classes that Saddleback College does. This is an incredible strength because students are able to learn about so many environmental issues.

A special aspect of the Environmental Studies program is our internship program. Students enrolled in the internship class have participated in radio tracking mountain lions, brought attention via many media to the plight of our coastal tide pools, produced a successful canyon hiking guide (sold in college bookstore with the proceeds going for student scholarships), produced a video on swallows that was used on PBS, and won an award from the Orange County Board of Supervisors for service to the county parks. The opportunity for students to make career shifts and adapt to many of their focused job options through the internship program has given them excellent experiences, which establishes self confidence, internal sophistication and enthusiasm. It can also align a connection for direct job placement and academic learning.

The greatest strength this department has is its faculty. The faculty, especially the associate faculty, have an incredible amount of knowledge, especially hands-on knowledge, that is brought into the classroom to be shared with the students. Also, the faculty have worked hard with the community to set up opportunities that students can participate in. This is such a great strength since students are able to put their knowledge that they learned in class into action. Having the ability to implement, see, and participate first hand what is actually going on in the natural environment is something that most environmental programs do not offer their students, and it only occurs here at Saddleback College because of the faculty in the Environmental Studies department.

Another strength of the program is the attraction of students to doing something greater than just for themselves. Students take away a sense of caring and community spirit from their involvement in the restoration and environmental activities.

D2. Opportunities

Over the years there has been an increased interest in the field of environmental studies, which can be seen in the addition of environmental studies courses in high schools, an increase in the number schools offering environmental majors (including all UC and CSU campuses) many with whom we articulate with, and an increase in the number of advanced degrees in the environmental field. Also, according to the Bureau of Labor Statistics' Occupational Outlook Handbook 2002-2003, in 2000 there were 748,800 people in environmental occupations, with that increasing between 21-35% by 2010. With this increase in jobs and higher degrees, there will be an increase in the demand for environmental classes both with incoming students and with professionals.

With the hiring of a 20 hour part-time laboratory technician, the department will have a dedicated staff member that will run and oversee the environmental studies lab. With this added help, there is a great opportunity for the Department to grow since the faculty can now concentrate on their classes rather than maintaining and setting up the lab. By hiring this position it will give the Department its greatest opportunity to enhance all the lab sections, enhance the quality of teaching, and provide the Program the ability to grow.

D3. Challenges

It has been quite difficult over the last several years with the Department suffering the loss of its only full-time faculty due to medical reasons. The Department was able to hire a one year temporary full-time faculty member in 2002, but due to the fact that the position was only temporary the future of the Department was put on hold. Finally, the Department hired a permanent full-time faculty member in 2003, and since then the Department has been focused on updating curriculum and growing the program.

As a result of hiring a fresh and vibrant new full-time faculty member to the Department, there have been times of difficulties dealing with associate faculty members. Unfortunately, some of the associate faculty members applied for the full-time position and did not receive it, and that left them with some hard feelings. The feelings would often get in the way of working towards the common goals of educating students and developing the program. Therefore, the biggest challenge in terms of faculty is that in the last few years the program coordination and interest by some of the associate faculty colleagues has diminished, especially in terms of communication with the department chair. Regardless of this issue, it is extremely difficult to run a program with only one full-time faculty member and associate faculty members who are only here to teach their classes and then leave. Without that desire of associate faculty members to help develop the program and do more than the bare minimum, managing, marketing, and growing the Department can be overwhelming at times.

Another challenge is the lack of enrollment in the ecological restoration classes. Even though this is a growing field and Saddleback College is one of only a few community colleges that offer a Certificate in Ecological Restoration, there continues to be a decline

in student interest. The exact reason for the decline is unknown at this time, and can actually be due to a variety reasons. The Environmental Studies department needs to focus on increasing the enrollment numbers in the ecological restoration classes, and this can hopefully be accomplished by making a few changes.

A potential challenge reflects the Biology department's decision to remove the cross-listings of four environmental studies classes with biology which can possibly impact enrollment.

Since the Environmental Studies department has been unable to hire a laboratory technician until recently, a specialist aide that worked between 4-6 hours a week helped out in the lab. This is obviously not enough since more time is needed to properly maintain the lab and grow the program. This will hopefully no longer be a challenge since the Department hired hiring a laboratory technician Summer 2006.

Finally, there is the challenge of running and maintaining the Outdoor Classroom. Currently, a specialist aide is working 10 hours a week in the Outdoor Classroom and that is simply not enough. There has also been a problem with a high turnover of specialist aides due to the overwhelming work and attention the Outdoor Classroom requires. More importantly, an additional environmental lab technician is needed to maintain the safety of the outdoor classroom. Without proper management, the outdoor classroom poses several general hazards, and could even become a potential fire hazard. Someone needs to be hired to make sure the paths are in good conditions and the plants are cared for to help eliminate anyone from getting hurt from them or being a potential fire hazard. There is also the problem of the decision by the District not to hire anymore specialist aides. If that is the case, then it will be impossible to manage the Outdoor Classroom. Finally, there is not enough money to manage the Outdoor Classroom properly. The budget for the specialist aide was cut this fiscal year and there is no budget for supplies and equipment. The Outdoor Classroom is a great asset to the students, college, and community, and it is a shame that it cannot be run properly due to the above mentioned challenges.

Section II: Review Report

A. Faculty and Staff

The Environmental Studies department has one full-time faculty and five associate faculty at this time. There is also currently one 20 hour part-time classified staff and one specialist aide. It has been difficult for the Department to grow without the part-time classified staff since the faculty members, especially the Department Chair, maintain the environmental lab. There is only so much faculty members can do, and if there is no help setting up and maintaining the lab then the Department is limited in how many lab classes it can offer. Also, the specialist aide running the Outdoor Classroom is simply not enough to properly maintain it.

The percentages of classroom hours assigned to full-time and associate faculty are 67% and 33%, respectively (Fall 2005, LIS report). The full-time faculty member currently teaches two large lectures and an additional lab as overload. If overload was not carried, the Department would have a 50% - 50% balance. The current full-time to part-time faculty ratio is sufficient to run the program as it is today. However, if there is any interest in growing the program then additional faculty members will have to be hired.

The Environmental Studies department is fortunate to have a Dean that supports the program and needs of its students. Therefore, it is believed that there does not currently need to be a change in administration. In terms of faculty, it is believed that recruiting new associate faculty members may breathe new life into the deteriorating ecological restoration classes. The Department will also have to hire more associate faculty members if it plans on growing and adding more classes. The biggest change will have to occur in the amount of staff. A part-time laboratory technician will greatly enhance the program since the person will be able to help faculty members and run the environmental lab. The one staff position that will need to be created and filled will be the one in the Outdoor Classroom. It would be great to hire a 20 hour part-time classified staff member that will oversee, run, and maintain the Outdoor Classroom.

B. Curriculum and Instruction

The Environmental Studies department offer courses for a variety of educational paths. Most of the classes are designed to satisfy degree and certificate requirements in the Environmental Studies program. The Department does offer transfer, general education and information competency courses as well. The majority of the students (47%) taking environmental studies classes have an educational goal of transferring to a four year university (Table 1). However, over 11% of the environmental studies students take classes to acquire or update job skills (Table 1). Therefore, it is necessary to offer a variety of classes that meet the different needs of the students.

Table 1 – Summary of Educational Goals by Year/Term

	AA/AS and transfer	Transfer w/o AA/AS	AA/AS w/o Transfer	Voc. Cert. w/o transfer	Acquire job skills	Update job skills	Ed development
Spring 2001	31.7%	9.3%	0.5%	11.7%	16.1%	2.0%	10.2%
Fall 2001	39.8%	8.8%	0.0%	11.6%	9.7%	0.5%	3.2%
Spring 2002	32.0%	9.4%	1.0%	14.3%	13.3%	1.5%	5.4%
Fall 2002	40.6%	7.3%	0.0%	13.7%	8.5%	0.9%	3.0%
Spring 2003	37.5%	13.5%	1.5%	16.5%	6.5%	3.5%	2.0%
Fall 2003	38.4%	9.6%	0.8%	14.0%	6.8%	1.6%	10.4%
Spring 2004	29.5%	13.5%	1.0%	20.8%	8.7%	2.4%	4.8%
Fall 2004	32.6%	14.8%	0.9%	10.9%	8.3%	2.2%	11.7%
Spring 2005	37.2%	12.2%	1.0%	15.3%	10.2%	1.5%	3.6%
Fall 2005	38.0%	14.7%	0.4%	11.3%	5.3%	3.8%	12.4%
Average	35.7%	11.3%	0.7%	14.0%	9.3%	2.0%	6.7%

Data Source: SOCCCD Management Information System (MIS) Data Warehouse April 2006

The courses offered in the Environmental Studies department are listed in Table 2. The dates of the last department/curriculum committee review and applicability toward Certificate, AA/AS degree, General Education, Information Competency, and transferability to CSU and UC are also noted. It is also noted if the class is cross-listed and if the Environmental Studies department holds the A or D ticket. It is important to note that Biology has decided starting Fall 2006 to remove the cross-listings of their courses with Environmental Studies courses.

Table 2 – Environmental Studies and Ecological Restoration Courses Offered at Saddleback College

Course	Department Cross-listed	Course Outline Update/Review	Degree Support and Transferability					
			Certificate	AA/AS	General Education	Information Competency	CSU	UC
ECOL 201		Fall 2005	YES					
ECOL 202		Fall 2005	YES					
ENV 1		Fall 2005	YES	YES	YES	YES	YES	YES
ENV 6	Economics	Fall 2005		YES	YES		YES	YES
ENV 18	Biology*	Fall 2005	YES	YES	YES	YES	YES	YES
ENV 19	Biology*	Fall 2005		YES	YES		YES	YES
ENV 23	Geology	Fall 2005		YES	YES		YES	YES
ENV 24	Biology*	Fall 2005	YES	YES			YES	YES
ENV 25	Biology*	Fall 2005		YES			YES	YES
ENV 30		Fall 2005		YES			YES	YES
ENV 105		Fall 2005	YES	YES			YES	
ENV 106	Biology*	Fall 2005		YES			YES	
ENV 120	Chemistry	Fall 2005		YES			YES	
ENV 123	Horticulture	Fall 2005	YES	YES			YES	
ENV 189		Fall 2005		YES**			YES	
ENV 200		Fall 2005						
CWE168			YES	YES			YES	
CWE 169			YES	YES			YES	

*Starting Fall 2006 classes will no longer be cross-listed with Biology.

**Will be effective Fall 2006

All courses in the Environmental Studies department were reviewed by faculty and presented to the College Curriculum Committee in Fall 2005 and will be done again Fall 2007. Cooperative Work Experience (CWE) is the only class that has a co-requisite which is ENV 105. All classes with numbers from 1-99 have been articulated with UC and CSU while classes numbered 100-199 have been articulated with CSU only. ECOL 201, ECOL 202, and ENV 200 are the only courses not articulated with UC or CSU. ENV 200 is the only stand alone class that is offered.

The Department has offered between 14-19 sections each semester and one section in the summer for the last five years (Table 3). The average enrollment per section ranged from 14 to 20 students (Table 3). It is important to note that the number of course sections offered include cross-listed courses where ENV is listed as either an A or D ticket. It will be interesting to see what happens to the enrollments once Biology removes its cross-listed courses.

Table 3 – Access and Productivity

	Academic Year									
	2001/2002		2002/2003		2003/2004		2004/2005		2005/2006	
	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
Number of Course Sections Offered	19	17	19	14	15	18	15	17	16	N/A
End of Term Headcount	263	266	292	241	294	257	261	242	297	N/A
Average Enrollment per Section	13.8	15.6	15.4	17.2	19.6	14.3	17.4	14.2	18.6	N/A

Data Source: SOCCCD Management Information System (MIS) Data Warehouse April 2006

Degree and Certificate Programs

The Environmental Studies department offers one certificate in Ecological Restoration (Table 4) and one A.A. degree in Environmental Studies (Table 5). The course sequences are intended to provide students with skills necessary to find employment in the environmental field at entry level or higher or transfer to a four year university. The certificate and degree programs are reviewed yearly with the most recent updates made in Fall 2005 which went into effect in Fall 2006.

Table 4 – Ecological Restoration Certificate

Course ID	Title	Units
ECOL 201	Ecological Restoration Techniques	4.0
ECOL 202	Advanced Ecological Restoration Techniques	4.0
ENV 1	Introduction to Environmental Studies	3.0
ENV 18	Introduction to Ecology	4.0
ENV 24	Natural History of California	3.0
ENV 105*	Environmental. Studies Internship	2.0
CWE 168*/169*	Cooperative Work Experience: Ecological Restoration	1.0
ENV 123	Water and Soil Conservation	3.0
HORT 29	Ornamental Native Plants	3.0
HORT 113	Soils and Fertilizer	3.0
HORT 116	Irrigation Systems	3.0
Total		33

*ENV 105 and CWE 168/169 need to be taken concurrently

Table 5 – Environmental Studies Degree

Course ID	Title	Units
ENV 1	Introduction to Environmental Studies	3.0
ENV 18	Introduction to Ecology	4.0
	Select a minimum of 13 units from Specialty Courses	
ENV 6	Scarcity and Environment	3.0
ENV 19*	Marine Biology	4.0
ENV 23	Environmental Geology	4.0
ENV 24	Natural History of California	3.0
ENV 25	Environmental Hazards to Health	3.0
ENV 30	Alternative Energy Technologies	3.0
ENV 105*	Environmental Studies Internship	2.0
CWE 168*/169*	Cooperative Work Experience: Environmental Studies	1.0
ENV 106	Natural Resource Conservation	3.0
ENV 120	Chemistry of Everyday Life	4.0
ENV 123	Water and Soil Conservation	3.0
ENV 189**	Special Topics	0.5 -4.0
Total		20

*ENV 105 and CWE 168/169 need to be taken concurrently

** Will be effective Fall 2006

The department chair, advisory committee, and the associate faculty work together to make sure that the program continues to offer appropriate classes in the environmental field. Not only are businesses asked what classes and information they would like to see our students learning, but curriculum at other colleges and universities are evaluated. Curriculum is reviewed every two years and it is at that time necessary changes are made, including adding and deleting classes. For example, it was determined that the program was lacking in the environmental law and policy area, so a special topics class will be offered in Fall 2006 with the hopes of making it a permanent class in the program.

Instructional goals and objectives are documented in the course curriculum. The faculty use a variety of methods to assess student success including critical thinking questions, quizzes, exams, homework, lab reports/projects, reviews of notebooks and journals, and research papers. All instructors follow the adopted topical course outline, although each instructor may place special emphasis on selected topics in which he/she is especially versed.

Student Learning Outcomes were written and submitted in Fall 2005 for the program and were assessed Summer 2006. The biggest challenge to the Student Learning Outcome process is the lack of clear understanding from a college-wide perspective. Also, the Outcomes were submitted in September 2005 and it was not until May 2006, did the Environmental Studies department find out they were accepted.

Technology is incorporated into every class that is offered in the Environmental Studies program. At a bare minimum it is incorporated into lectures, but can also be used in the field, as well as, the Ecology labs where most of the technology is used. In the Ecology labs students are able to use state of the art microscopes, testing apparatuses, and computer software.

There is currently discussion occurring on whether or not to implement a hybrid distance education class, possibly for Environmental Studies 1, Introduction to Environmental Studies. The Department will continue to look into this as a possibility.

The biggest strength is the area of curriculum is the diversity in the classes offered. For a community college, the Department offers one of the most extensive selection of courses. In terms of instruction, there are some great associate faculty members that bring in their real-world experiences and opportunities into the classroom which helps to make the program unique.

C. Student Success

Students are very successful in environmental studies classes. On average over the last five years, 34% of the students earned A's and another 23% of the students earned B's (Table 6). Although a small percentage (14%) of the students earned a D or lower (5 % D and 9% F), the faculty will continue to focus on decreasing these percentages. It is hoped that by implementing Student Learning Outcomes, this will help increase student success. The Environmental Studies department will concentrate on lowering the "other" category (15%), which includes incompletes, no credit, withdrawals, and none of the above/unknown. The primary focus will be to lower the number of students who withdrawal from the classes.

Table 6 – Summary of Grades by Year/Term

	A	B	C	CR	D	F	Other
Spring 2001	31.2	23.9	14.1	2.0	3.4	10.7	14.6
Summer 2001	100.0	0.0	0.0	0.0	0.0	0.0	0.0
Fall 2001	40.1	26.9	13.4	0.5	4.2	3.7	10.6
Spring 2002	33.0	26.6	11.8	0.5	3.9	5.9	18.2
Summer 2002	22.7	18.2	31.8	0.0	0.0	0.0	27.3
Fall 2002	26.5	13.2	22.6	0.4	4.3	11.5	21.4
Spring 2003	28.5	18.5	12.5	0.0	7.0	15.5	18.0
Summer 2003	43.8	31.3	0.0	0.0	6.3	12.5	6.3
Fall 2003	28.4	28.0	9.2	0.8	5.6	14.8	13.2
Spring 2004	32.4	18.8	12.6	0.0	6.8	10.1	19.3
Summer 2004	22.2	29.6	3.7	3.7	11.1	11.1	18.5
Fall 2004	22.2	25.2	19.6	3.0	7.8	5.7	16.5
Spring 2005	29.1	26.0	15.3	0.0	6.1	10.2	13.3
Summer 2005	27.8	27.8	11.1	5.6	0.0	11.1	16.7
Fall 2005	27.4	25.6	15.0	1.1	5.3	13.9	11.7
Average	34.35	22.64	12.85	1.17	4.79	9.11	15.04

Data Source: SOCCCD Management Information System (MIS) Data Warehouse April 2006

The Environmental Studies department has an Average Successful Course Completion Rate of 71% with a high 93% Average Course Term Retention Rate since Spring 2001 (Table 7). The Department will focus on improving the Average Successful Course Completion Rate to a minimum of 75% and although the department currently has a high Average Course Term Retention Rate it is important to make sure that the numbers stay high.

Table 7 – Summary of Success and Retention by Year/Term

	Success	Retention
Spring 2001	71.2%	92.7%
Summer 2001	100.0%	100.0%
Fall 2001	81.5%	95.4%
Spring 2002	71.9%	91.1%
Summer 2002	72.7%	95.5%
Fall 2002	62.8%	85.9%
Spring 2003	59.5%	88.5%
Summer 2003	75.0%	93.8%
Fall 2003	66.4%	92.0%
Spring 2004	63.8%	92.3%
Summer 2004	59.3%	92.6%
Fall 2004	70.0%	87.8%
Spring 2005	70.4%	90.8%
Summer 2005	72.2%	100.0%
Fall 2005	69.2%	93.6%
Average	71.1%	92.8%

Data Source: SOCCCD Management Information System (MIS) Data Warehouse April 2006

Table 8 – Awards for Environmental Studies and Ecological Restoration A.A and Certificate

Count	Award		Total
	Environmental Studies A.A.	Ecological Restoration Certificate	
2002	5	2	7
2003	1	1	2
2004	2	3	5
Total	8	6	14

Data Source: SOCCCD Management Information System (MIS) Data Warehouse April 2006

The Environmental Studies department has a relatively low completion rate of Associate of Arts degrees and certificates. Between 2002 and 2004 only 8 students earned an A.A. in Environmental Studies and only 6 students earned a Certificate in Ecological Restoration (Table 8). A lot of our students are interested in professional skills training or upgrading for job advancement and are not actually interested in obtaining a degree or certificate. In addition, students can in fact transfer to a 4 year university without the completion of an A.A. degree, and this could be a factor. As the program grows, it is believed the number of degrees and certificates obtained will also increase. Faculty members are encouraging environmental studies students to get their degrees and/or their certificates. For example, it has been pointed out to the faculty and the students

that in order to obtain a certificate, it is not enough to take the classes, but in fact the student has to apply for the certificate. Knowing that, faculty members are giving the certificate form to hand out to their students at the end of the semester. The Department is also looking at creating occupational skills awards, or mini-certificates. These awards have fewer unit requirements than the A.A. degree and the Certificate since the students only need to take a series of courses. This may be very beneficial for the students who are interested in professional skills training or upgrading for job advancement. Regardless, the low completion rate of A.A. degrees and certificates are a concern for the Department and concerted efforts will be made to increase these numbers.

Looking at the gender breakdown for Environmental Studies for the last five years, it was 52% female and 48% male so gender diversity is fairly evenly distributed. As the statistics show, the majority of the students enrolled in environmental studies classes are White (69.0%), Hispanic (10.5%), and Asian (6.0%) (Table 9). Upon reviewing this information, the Department will try to identify new methods to increase the underrepresented ethnicities in the classes. It is extremely important to the Department to promote diversity in all of the classes.

Table 9 – Ethnicity by Year/Term

	Asian	African-American	Hispanic	White	Other/Unknown
Spring 2001	6.3%	1.0%	12.7%	67.8%	12.2%
Summer 2001	0.0%	0.0%	5.6%	94.4%	0.0%
Fall 2001	4.6%	0.0%	11.1%	74.1%	10.2%
Spring 2002	6.4%	0.5%	8.9%	72.9%	11.3%
Summer 2002	4.5%	0.0%	18.2%	50.0%	27.3%
Fall 2002	9.4%	2.6%	12.4%	61.5%	14.1%
Spring 2003	11.0%	1.0%	13.0%	67.5%	7.5%
Summer 2003	6.3%	0.0%	18.8%	62.5%	12.4%
Fall 2003	9.2%	0.0%	8.8%	66.4%	15.6%
Spring 2004	8.2%	0.5%	7.2%	69.1%	15.0%
Summer 2004	3.7%	3.7%	7.4%	74.1%	11.1%
Fall 2004	6.1%	1.3%	10.9%	70.9%	10.8%
Spring 2005	6.1%	1.0%	6.6%	75.5%	10.8%
Summer 2005	0.0%	5.6%	5.6%	61.1%	27.7%
Fall 2005	8.3%	1.5%	10.5%	66.5%	13.2%
Average	6.0%	1.3%	10.5%	69.0%	13.2%

Data Source: SOCCCD Management Information System (MIS) Data Warehouse April 2006

D. Facilities, Technical Infrastructure, and Resources

D1. Facilities

The Environmental Studies department has one supply room (TAS 224a) and one primary instructional laboratory room (TAS 225) and must rely on the availability of other rooms for other classes since not all classes can be taught in TAS 225. The biggest challenge is the teaching of large lecture classes since there is no longer a large lecture

classroom in the TAS building and there is a limited availability across campus. For the last three years, the department has offered two large lectures every semester so there is constantly a scheduling problem and it will continue to be a problem as interest in the program grows.

Another challenge is that these additional classrooms are often located in different buildings which separates our course offerings physically and often makes laboratory set-up difficult. For example, ENV 18, Introductions to Ecology, is a large lecture and since there is no large lecture classroom in TAS, it must be taught elsewhere on campus, but the lab that is taught right after lecture is taught in TAS 225 so there is travel time that needs to be taken into consideration.

It is also important to note that the biggest challenge is the fact that the TAS building itself has structural problems and it is expected that at least half of the building will be moving down to the Learning Village. If that occurs, then it will be difficult to teach while repairs are occurring due to noise and other disruptions and could even pose a safety hazard for people remaining in the building. The other option would be to move the entire building to lower campus which I have been told is a definite possibility. If that occurs, then it would be imperative that a lab class be made available with adequate storage with locking capabilities for equipment and supplies, including chemicals. The disruption to the TAS building could also cause damage to the Outdoor Classroom which is located right next to the TAS building. If this occurred then money will be needed to restore the area.

Another challenge deals with supply space. The environmental studies supply room no longer has room for additional equipment and supplies. Also, the design of the supply room has limited the placement of a desk for the Environmental Studies lab technician. Currently, the computer and chair are not ergonomically correct, but unfortunately there seems to be limited options.

D2. Technical infrastructure

Most of the technology used by the department involves computers, and as long as the computers in the classrooms, lab tech office, and department chair office remain up-to-date there should not be any problems. The primary technology used in classrooms include, PowerPoint projectors, slide projectors (although faculty are currently in the process of transferring their slides onto CDs), overhead projectors, and VHS/DVD recorders.

Currently, the technical infrastructure is adequate for completion of the instructional mission of providing a high quality teaching environment for environmental studies students. In the future, the department would like to invest in a computerized video microscope and video dissection scope for displaying and photographing organisms.

D3. Resources

The operational budget of the Environmental Studies department (approx. \$6000) has remained constant despite rising costs due to inflation and is provided by the college. Unfortunately, the Department's budget must be supplemented with funds from other sources including use of (1) Non-Competitive Equipment funds, (2) Competitive Equipment funds, (3) grants from the Saddleback College Foundation, (4) Environmental Studies Foundation funds, (5) Technology funds, (6) ASG funds, and (7) ATAS Division budget. While our budget allows us to present classes at an acceptable level it does not permit us to address the College's goal for increased enrollments as we would need to fund additional courses in order to attract and educate more students. Our outlook for future growth and/or re-organization is closely tied to our budget and its constraints.

The biggest budget constraint is the Outdoor Classroom which is funded by the Environmental Studies budget. There is simply not enough money in the budget to run classes and the Outdoor Classroom they way it should. More money is desperately needed to maintain the Outdoor Classroom, and ultimately improve it so it can be seen as a place to go by the students, college, and community.

Although, it can be a challenge to obtain funds for purchasing needed equipment, the Environmental Studies department has been fortunate to have a Dean that is actively trying to find money to support the Department and its needs. It is also important to note that over the last 5 years, the Environmental Studies department successfully obtained two grants for a total of \$9000.00 from Saddleback College Foundation for equipment (compound microscopes). The Associated Student Government has also given two grants for a total of \$1000.00 for marketing supplies and the Outdoor Classroom.

E. Service, Community Outreach, and Economic Development

The Environmental Studies department participates significantly in community service and outreach. For example, the cooperation with public agencies is deep with the existing faculty, especially in Ecological Restoration. It is very helpful to have instructors that have experience in the everyday implementation of these restoration ideas dealt within class discussions. Quite often students are taken out to sites where the County, City, State and other agencies are attempting to restore native landscapes. Students who take ENV 200, Naturalist Training, are trained to become volunteer naturalists and lead public tours at local parks and preserves. The program has also participated with projects in all the surrounding cities and has developed a good reputation for bright and eager students that show-up and continue their involvement even after they have taken their classes at Saddleback College.

The Environmental Studies faculty have used their professional expertise and networking ability to come up with field sites, projects and activities in all the bioregions of Southern California. Since many environmental issues can be examined locally,

students have access to immense resources to evaluate contemporary problems and to develop solutions.

Community outreach is a key program advantage since the Department interacts with agencies and programs constantly, which enables the community to meet students and get Saddleback College out into the public eye. Many of our students have made networking connections and gotten jobs or contracts for work from these experiences.

Not only do the students benefit from the community service and outreach, but the community itself benefits. Quite often faculty members are out in the community educating the public about environmental issues and promoting the program at Saddleback College. Also, faculty routinely give presentations to local high schools and local organizations.

The Department also maintains the outdoor classroom which the community can use for personal or instructional uses.

In the 2004-2005 academic year, energetic environmental studies students reactivated the Environmental Awareness Club on campus. The Club was successful at holding meetings, lectures, debates, and most importantly the Environmental Awareness Fair. The Environmental Awareness Club, with financial support (\$2000.00) from the Associated Student Government and help from over 30 environmental studies students running the events/tables, sponsored the community event. Approximately 100 community members came to the Fair to see and learn about local environmental organizations, plant California natives, participate in hands-on experiments, take tours of the California Native Outdoor Garden, and listen to local bands. It was a great success and it was believed that this would turn into an annual event, but unfortunately interest in the Club waned as the president and vice president moved out of state. It is hoped that one day this club will be reactivated.

The Department also participates in activities such as Senior Day, Family Night, and Welcome Day to help promote the classes and get people interested in the environment. The Department also participates by doing an open house in campus tours for local high school students throughout the school year.

The biggest challenge to community service and outreach is time. There simply is not enough time to get everything done. For example, it would be nice for a faculty member to personally contact all of the local high schools and talk about the program, but that is quite difficult so instead brochures are sent out.

Section III: Needs Assessment

A. Human Resource Needs

The Department has a lone classified support staff member. This 20 hour per week laboratory technician slot is inadequate if we want the Department to grow. This person is shared with the Aquarium and Aquaculture Science program which receives 10 hours of the 20 hours allotted. Ideally, the Department would like to hire an additional 20 hour per week laboratory technician to oversee the Outdoor Classroom. This is absolutely critical since there is only one student helper and volunteers who are maintaining the Outdoor Classroom currently.

As the program grows, the Department would like to add a second full-time faculty member. However, it is known that this will not probably happen for sometime.

B. Instructional Needs

The Environmental Studies department has been very fortunate with obtaining instructional equipment, however, the Department could still use more to help continue to make the environmental studies lab state of the art. It is important that the needs continue to be met and all equipment remain working properly and is kept current. Also, as the field of environmental studies becomes more technologically advanced, the Department will want to invest in technology, such as GIS and other relative software.

Other needs occur in the Outdoor Classroom. In order to use it as a hands-on, interactive learning environment, more money will be needed to enhance the environments including plants, signs, lighting, irrigation, etc.

C. Research Needs

Even after this program review, the Department will continue to research its institutional effectiveness and identify needed improvements or areas of concerns. In addition, the Department will continue to maintain and further develop Student Learning Outcomes and use this information to help with future program reviews.

More research will also need to be done in order for the programs and classes to remain current. As environmental issues continue to evolve and new issues emerge, it will be important that the Department incorporates those changes into the curriculum. It is also essential to continue to research the needs of businesses and the community in general. Finally, continual research is necessary to help with the recruitment process of associate faculty and students.

D. Technical, Equipment and Other Resource Needs

In order to modernize the environmental studies lab, updated equipment and technology will be essential and this will take money which currently is in limited supply. Furthermore, maintaining a proper running lab safely will require additional funds as supplies, equipment, and technology needs to be added or replaced.

E. Facilities Needs

The biggest need is a large lecture room. Large lecture rooms are in high demand and limited quantity at Saddleback College, and unfortunately, the large lecture classroom (TAS 226) that the Environmental Studies department used to teach classes in was converted into a computer lab. When that occurred, it left TAS with no large lecture classrooms, so now large lecture classes have to be taught in other buildings, where they are competing with other large lecture classes offered at Saddleback College. It is strongly recommended, if possible, that an area within TAS be converted into a large lecture classroom.

Although it would be nice to redesign the environmental studies lab and supply room, it is highly unlikely that it would occur. Therefore, improvements need to be made to make it more functional. For example, we need to have more storage for supplies and equipment, primarily microscopes. Also, the environmental studies supply room was not designed to support a desk which is need for the laboratory technician.

F. Marketing and Outreach Needs

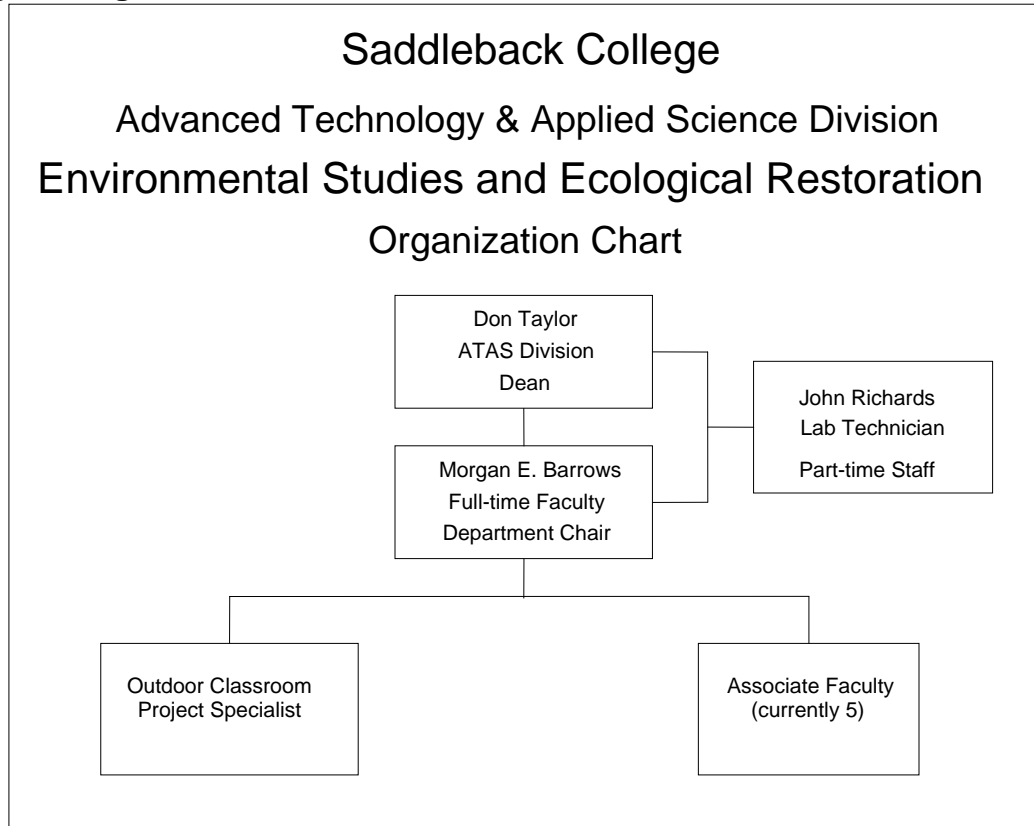
The Environmental Studies program is marketed in various ways since the students vary from recent high school graduates to people seeking to change careers or upgrade their skills in their existing careers or professions. Our current and future marketing efforts include:

- the Saddleback College schedule of classes.
- department brochures produced by the ATAS division.
- department pages linked to the college internet website.
- advertising on Channel 39, KSBR, and college marquees.
- promotional paper fliers posted on various college bulletin boards.
- participation in Welcome Day, Senior Day, Career Day, Family night and Counselors' Day.
- a departmental website.
- faculty participation as guest speakers at area high schools.
- publication of monthly events and achievements in the ATAS Division "Good Stuff" electronic newsletter.
- informal but useful email and phone communication with area employers.
- active participation in helping alert students to job openings with local companies and organizations, that directly relate to the subjects being taught.
- tours of the department's facilities to various groups and visiting officials.
- presentations to Saddleback College Counselors.
- active Advisory Committees, yielding direct input from community professionals.
- advising the Environmental Awareness Club on campus.

One of our most successful recruitment tools is "word-of-mouth" between students who are satisfied with their coursework in Environmental Studies.

Section IV: Appendices

A. Program Organizational Chart



B. Five-Year Program Staffing Profile

Environmental Studies Department						
Position	Staffing Levels in the Past 5 Years					% Change from Year 1 to Year 5
	2001-02	2002-03	2003-04	2004-05	2005-06	
Administration	1	1	1	1	1	0
Classified FT	0	0	0	0	0	0
Classified PT	0	0	0	0	1	100
Faculty FT	0	1	1	1	1	100
Faculty PT	7	6	6	6	6	-14

C. SLO Assessment Forms

**Environmental Studies
09/2005**

I Expanded Statement of Institutional Purpose	II Program Student Learning Outcomes	III Assessment Method and Criteria for Success	IV Assessment Results	V Use of Results
<p>Saddleback College Goal:</p> <p>Provide a meaningful general education program including baccalaureate-level transfer and occupational curricula</p> <p>The Environmental Studies Department Mission:</p> <p>Provide environmental education leading to the AA degree, transfer, or employment in the environmental field, and promote social responsibility.</p>	<p>1. Students will demonstrate social responsibility by using critical thinking skills.</p>	<p>1. 90% of students will earn a combined score of 80% or above on critical thinking questions in ENV 1 and ENV 30 and ENV 123, which will be evaluated using a grading rubric.</p>	<p>ENV 1 F05: 81% ENV 1 S06: 74% ENV 30: 93.3% ENV 123: 100%</p>	<p>Develop better methods to teach critical thinking skills and continue to monitor, especially ENV 1.</p>

Expanded Statement of Institutional Purpose	Program Student Learning Outcomes	Assessment Method and Criteria for Success	Assessment Results	Use of Results
<p>Saddleback College Goal:</p> <p>Provide a meaningful general education program including baccalaureate-level transfer and occupational curricula</p> <p>The Environmental Studies Department Mission:</p> <p>Provide environmental education leading to the AA degree, transfer, or employment in the environmental field, and promote social responsibility.</p>	<p>2. Students will be able to apply the scientific method to an environmental issue with limited supervision.</p>	<p>2. 80% of the students completing the ENV 18 lab will score satisfactory or higher on a grading rubric which requires the student to apply the scientific method by stating a question; researching the topic; determining the appropriate tests; performing tests; collecting, analyzing and presenting data; and finally, proposing new questions about the topic.</p>	<p>Fall 05: 80% Spring 06: 84%</p>	<p>Develop better methods to teach the scientific method and laboratory skills and continue to monitor.</p>

I Expanded Statement of Institutional Purpose	II Program Student Learning Outcomes	III Assessment Method and Criteria for Success	IV Assessment Results	V Use of Results
<p>Saddleback College Goal:</p> <p>Provide a meaningful general education program including baccalaureate-level transfer and occupational curricula</p> <p>The Environmental Studies Department Mission:</p> <p>Provide environmental education leading to the AA degree, transfer, or employment in the environmental field, and promote social responsibility.</p>	<p>3. 85% of the students completing ENV 1 will score satisfactory or higher on a grading rubric which evaluates the environmental portfolio project for analysis of scientific literature and presentation of results in written and oral forms.</p>	<p>Fall 05: 82% Spring 06: 81%</p>	<p>Develop better methods to teach analysis of scientific literature and presentation of results in written and oral forms and continue to monitor.</p>	<p>3. 85% of the students completing ENV 1 will score satisfactory or higher on a grading rubric which evaluates the environmental portfolio project for analysis of scientific literature and presentation of results in written and oral forms.</p>

D. Data Sets

**Environmental Studies and Ecological Preservation
Program Review Data Set
April 2006**

Environmental Studies and Ecological Preservation Program Review Data Set

The following pages include:

1. **Course Section Count**
2. **C1 & End of Term Headcount**
3. **Overview of Courses, Grades, Success/Retention**
4. **Course Grades, Success/Retention**
5. **Environmental Studies and Ecological Preservation Program Students' Duplicated Headcount**
 - a. **Gender**
 - b. **Zip Code**
 - c. **Ethnicity**
 - d. **Educational Goal**
6. **Degree/Award Data for 04-05**

**Data Source: SOCCCD Management Information System (MIS) Data Warehouse April 2006
Prepared by Denice Inciong, Research and Planning Analyst, Saddleback College**

Course Section Count

Environmental Studies & Ecological Restoration Program Course and Section Count by Term and Year

	Fall					Summer					Spring				
	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Section Count	Section Count	Section Count	Section Count	Section Count	Section Count	Section Count	Section Count	Section Count	Section Count	Section Count	Section Count	Section Count	Section Count	Section Count
ECOL 201	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0
ECOL 202	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0
ENV 1	3	4	3	3	3	0	1	1	1	1	4	4	5	3	3
ENV 6	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
ENV 18	2	1	1	1	2	0	0	0	0	0	1	1	0	0	1
ENV 19	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1
ENV 23	3	3	2	2	2	0	0	0	0	0	2	3	2	2	2
ENV 24	1	1	1	1	1	0	0	0	0	0	1	1	1	1	1
ENV 25	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
ENV 30	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0
ENV 105	1	0	0	0	0	1	0	0	0	0	1	0	0	1	0
ENV 106	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
ENV 120	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1
ENV 123	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
ENV 200	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0
Total	12	12	10	10	11	1	1	1	1	1	12	11	10	12	10

C1 Headcount

Environmental Studies & Ecological Restoration Program C1 Headcount by Course/Term/Year

	Fall					Summer					Spring				
	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	C1 Headcount	C1 Headcount	C1 Headcount	C1 Headcount	C1 Headcount	C1 Headcount	C1 Headcount	C1 Headcount	C1 Headcount	C1 Headcount	C1 Headcount	C1 Headcount	C1 Headcount	C1 Headcount	C1 Headcount
ECOL 201	0	0	0	0	0	.	.	.	.	.	.	.	.	.	.
ECOL 202	.	.	.	.	.	.	.	.	.	.	0	0	0	0	.
ENV 1	96	130	120	115	107	.	21	16	27	17	81	104	130	107	111
ENV 6	.	.	.	.	.	.	.	.	.	.	11	.	.	.	.
ENV 18	24	18	26	24	46	.	.	.	.	.	19	20	.	.	24
ENV 19	8	4	.	.	.	.	.	.	.	.	.	.	.	8	4
ENV 23	52	54	34	27	37	.	.	.	.	.	38	45	38	28	22
ENV 24	0	0	0	0	0	.	.	.	.	.	0	0	0	0	0
ENV 25	.	7	.	12	.	.	.	.	.	.	.	.	.	.	.
ENV 30	.	.	.	.	15	.	.	.	.	.	.	.	.	14	.
ENV 105	14	.	.	.	.	0	.	.	.	.	21	.	.	9	.
ENV 106	.	.	13	.	.	.	.	.	.	.	.	.	.	.	17
ENV 120	.	.	.	.	.	.	.	.	.	.	7	6	8	7	9
ENV 123	.	.	.	.	.	.	.	.	.	.	.	.	.	9	.
ENV 200	.	.	0	0	0	.	.	.	.	.	.	.	.	.	.
Total	194	213	193	178	205	0	21	16	27	17	177	175	176	182	187

End of Term Headcount

Environmental Studies & Ecological Restoration Program End of Term Enrollment by Course/Term/Year

	Fall					Summer					Spring				
	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	End of Term Enrollment	End of Term Enrollment	End of Term Enrollment	End of Term Enrollment	End of Term Enrollment	End of Term Enrollment	End of Term Enrollment	End of Term Enrollment	End of Term Enrollment	End of Term Enrollment	End of Term Enrollment	End of Term Enrollment	End of Term Enrollment	End of Term Enrollment	End of Term Enrollment
ECOL 201	14	11	12	14	12	0	0	0	0	0	0	0	0	0	0
ECOL 202	0	0	0	0	0	0	0	0	0	0	16	16	11	14	0
ENV 1	96	130	122	115	108	0	22	16	27	18	82	104	130	107	111
ENV 6	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0
ENV 18	25	18	26	24	46	0	0	0	0	0	19	20	0	0	24
ENV 19	8	4	0	0	0	0	0	0	0	0	0	0	0	8	4
ENV 23	52	54	34	27	37	0	0	0	0	0	38	45	38	28	22
ENV 24	7	9	9	9	13	0	0	0	0	0	11	12	12	11	9
ENV 25	0	8	0	12	0	0	0	0	0	0	0	0	0	0	0
ENV 30	0	0	0	0	16	0	0	0	0	0	0	0	0	14	0
ENV 105	14	0	0	0	0	18	0	0	0	0	21	0	0	9	0
ENV 106	0	0	14	0	0	0	0	0	0	0	0	0	0	0	17
ENV 120	0	0	0	0	0	0	0	0	0	0	7	6	9	7	9
ENV 123	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0
ENV 200	0	0	33	29	34	0	0	0	0	0	0	0	0	0	0
Total	216	234	250	230	266	18	22	16	27	18	205	203	200	207	196

Summary of Courses, Grades, Success/Retention

**Environmental Studies & Ecological Restoration Program
Summary of All Courses by Grade/Success/Retention**

		Grades											success	retention
		A	B	C	CR	D	F	I	NC	W	XX	Total		
		Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Percent	Percent
2001	Spring	64	49	29	4	7	22	0	0	15	15	205	71.2%	92.7%
	Summer	18	0	0	0	0	0	0	0	0	0	18	100.0%	100.0%
	Fall	88	58	29	1	9	8	1	0	10	12	216	81.5%	95.4%
2002	Spring	67	54	24	1	8	12	0	0	18	19	203	71.9%	91.1%
	Summer	5	4	7	0	0	0	0	0	1	5	22	72.7%	95.5%
	Fall	62	31	53	1	10	27	4	0	33	13	234	62.8%	85.9%
2003	Spring	57	37	25	0	14	31	1	1	23	11	200	59.5%	88.5%
	Summer	7	5	0	0	1	2	0	0	1	0	16	75.0%	93.8%
	Fall	71	70	23	2	14	37	0	0	20	13	250	66.4%	92.0%
2004	Spring	67	39	26	0	14	21	1	3	16	20	207	63.8%	92.3%
	Summer	6	8	1	1	3	3	0	1	2	2	27	59.3%	92.6%
	Fall	51	58	45	7	18	13	1	0	28	9	230	70.0%	87.8%
2005	Spring	57	51	30	0	12	20	0	0	18	8	196	70.4%	90.8%
	Summer	5	5	2	1	0	2	0	0	0	3	18	72.2%	100.0%
	Fall	73	68	40	3	14	37	1	0	17	13	266	69.2%	93.6%

Grade XX = None of the above/unknown.

Success Rate: Percent of students successful in courses out of total enrolled in courses (RP Group, 1996).

The success rate is calculated by dividing the numerator (number of students duplicated with A, B, C, CR) by the denominator (number of students with A, C, D, F, CR, NC, W, I, XX)

Retention Rate: Percent of students retained in courses out of total students enrolled in courses (RP Group, 1996).

The retention rate is calculated by dividing the numerator (number of students duplicated with A, B, C, D, F, CR, NC, I, XX) by the denominator (number students with A, B, C, D, F, CR, NC, W, I, XX).

**Environmental Studies & Ecological Restoration Program
Courses by Grade/Success/Retention**

			Grades					success	retention
			A	CR	W	XX	Total	Percent	Percent
			Count	Count	Count	Count	Count		
ECOL 201	2001	Fall	14	0	0	0	14	100.0%	100.0%
	2002	Fall	10	1	0	0	11	100.0%	100.0%
	2003	Fall	11	0	1	0	12	91.7%	91.7%
	2004	Fall	11	0	2	1	14	78.6%	85.7%
	2005	Fall	11	1	0	0	12	100.0%	100.0%
ECOL 202	2001	Spring	16	0	0	0	16	100.0%	100.0%
	2002	Spring	16	0	0	0	16	100.0%	100.0%
	2003	Spring	11	0	0	0	11	100.0%	100.0%
	2004	Spring	14	0	0	0	14	100.0%	100.0%

Grade XX = None of the above/unknown.

Success Rate: Percent of students successful in courses out of total enrolled in courses (RP Group, 1996).

The success rate is calculated by dividing the numerator (number of students duplicated with A, B, C, CR) by the denominator (number of students with A, B, C, D, F, CR, NC, W, I, XX)

Retention Rate: Percent of students retained in courses out of total students enrolled in courses (RP Group, 1996).

The retention rate is calculated by dividing the numerator (number of students duplicated with A, B, C, D, F, CR, NC, I*, XX) by the denominator (number of students with A, B, C, D, F, CR, NC, W, I, XX).

**Environmental Studies & Ecological Restoration Program
Courses by Grade/Success/Retention**

			Grades								success	retention	
			A	B	C	CR	D	F	W	XX	Total		
			Count	Count	Count	Count	Count	Count	Count	Count	Count	Percent	Percent
ENV 18	2001	Spring	4	3	7	1	0	2	2	0	19	78.9%	89.5%
		Fall	10	10	1	1	0	0	0	3	25	88.0%	100.0%
	2002	Spring	11	2	1	0	0	0	0	6	20	70.0%	100.0%
		Fall	0	2	8	0	1	0	5	2	18	55.6%	72.2%
	2003	Fall	5	6	5	0	3	4	1	2	26	61.5%	96.2%
	2004	Fall	4	7	5	0	4	0	3	1	24	66.7%	87.5%
	2005	Spring	5	7	4	0	2	1	4	1	24	66.7%	83.3%
		Fall	10	10	13	0	2	5	5	1	46	71.7%	89.1%
ENV 19	2001	Fall	2	4	1	0	0	0	1	0	8	87.5%	87.5%
	2002	Fall	0	1	0	0	1	2	0	0	4	25.0%	100.0%
	2004	Spring	0	0	0	0	0	0	0	8	8	.0%	100.0%
	2005	Spring	1	0	1	0	0	0	1	1	4	50.0%	75.0%

Grade XX = None of the above/unknown.

Success Rate: Percent of students successful in courses out of total enrolled in courses (RP Group, 1996).

The success rate is calculated by dividing the numerator (number of students duplicated with A, B, C, CR) by the denominator (number of students with A, B, C, I, F, CR, NC, W, I, XX)

Retention Rate: Percent of students retained in courses out of total students enrolled in courses (RP Group, 1996).

The retention rate is calculated by dividing the numerator (number of students duplicated with A, B, C, D, F, CR, NC, I*, XX) by the denominator (number of students with A, B, C, D, F, CR, NC, W, I, XX).

**Environmental Studies & Ecological Restoration Program
Courses by Grade/Success/Retention**

			Grades										success	retention	
			A	B	C	CR	D	F	I	NC	W	XX	Total		
			Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Percent	Percent
ENV 23	2001	Spring	8	11	3	0	1	8	0	0	1	6	38	57.9%	97.4%
		Fall	8	12	14	0	5	6	0	0	2	5	52	65.4%	96.2%
	2002	Spring	14	12	8	0	1	2	0	0	2	6	45	75.6%	95.6%
		Fall	4	7	15	0	1	6	1	0	14	6	54	48.1%	74.1%
	2003	Spring	4	6	4	0	4	7	0	1	6	6	38	36.8%	84.2%
		Fall	5	13	4	0	1	2	0	0	6	3	34	64.7%	82.4%
	2004	Spring	3	5	7	0	6	5	0	0	0	2	28	53.6%	100.0%
		Fall	5	4	7	1	3	2	0	0	1	4	27	63.0%	96.3%
	2005	Spring	5	3	7	0	4	0	0	0	1	2	22	68.2%	95.5%
		Fall	4	6	8	0	5	10	0	0	2	2	37	48.6%	94.6%

Grade XX = None of the above/unknown.

Success Rate: Percent of students successful in courses out of total enrolled in courses (RP Group, 1996).

The success rate is calculated by dividing the numerator (number of students duplicated with A, B, C, CR) by the denominator (number of students with A, B, C, I, F, CR, NC, W, I, XX)

Retention Rate: Percent of students retained in courses out of total students enrolled in courses (RP Group, 1996).

The retention rate is calculated by dividing the numerator (number of students duplicated with A, B, C, D, F, CR, NC, I*, XX) by the denominator (number of students with A, B, C, D, F, CR, NC, W, I, XX).

**Environmental Studies & Ecological Restoration Program
Courses by Grade/Success/Retention**

			Grades										success	retention	
			A	B	C	CR	D	F	I	NC	W	XX	Total		
			Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Percent	Percent
ENV 24	2001	Spring	1	1	2	2	0	0	0	0	0	5	11	54.5%	100.0%
		Fall	4	2	0	0	0	0	1	0	0	0	7	85.7%	100.0%
	2002	Spring	3	2	1	1	2	0	0	0	2	1	12	58.3%	83.3%
		Fall	4	3	1	0	0	0	1	0	0	0	9	88.9%	100.0%
	2003	Spring	5	2	3	0	0	1	0	0	0	1	12	83.3%	100.0%
		Fall	5	2	0	0	0	2	0	0	0	0	9	77.8%	100.0%
	2004	Spring	5	4	2	0	0	0	0	0	0	0	11	100.0%	100.0%
		Fall	4	1	2	0	0	1	1	0	0	0	9	77.8%	100.0%
2005	Spring	6	0	2	0	1	0	0	0	0	0	9	88.9%	100.0%	
	Fall	7	3	1	0	0	1	1	0	0	0	13	84.6%	100.0%	
ENV 25	2002	Fall	4	2	1	0	0	0	0	0	1	8	87.5%	100.0%	
	2004	Fall	3	5	1	0	1	0	0	2	0	12	75.0%	83.3%	
ENV 30	2004	Spring	7	2	0	0	0	1	1	2	0	14	64.3%	100.0%	
	2005	Fall	10	2	1	0	1	1	0	0	1	16	81.2%	93.8%	

Grade XX = None of the above/unknown.

Success Rate: Percent of students successful in courses out of total enrolled in courses (RP Group, 1996).

The success rate is calculated by dividing the numerator (number of students duplicated with A, B, C, CR) by the denominator (number of students with A, B, C, I, F, CR, NC, W, I, XX)

Retention Rate: Percent of students retained in courses out of total students enrolled in courses (RP Group, 1996).

The retention rate is calculated by dividing the numerator (number of students duplicated with A, B, C, D, F, CR, NC, I*, XX) by the denominator (number of students with A, B, C, D, F, CR, NC, W, I, XX).

**Environmental Studies & Ecological Restoration Program
Courses by Grade/Success/Retention**

			Grades								success	retention	
			A	B	C	CR	D	F	W	XX	Total		
			Count	Count	Count	Count	Count	Count	Count	Count	Count	Percent	Percent
ENV 105	2001	Spring	16	0	0	1	0	0	4	0	21	81.0%	81.0%
		Summer	18	0	0	0	0	0	0	0	18	100.0%	100.0%
		Fall	13	0	0	0	0	0	1	0	14	92.9%	92.9%
	2004	Spring	9	0	0	0	0	0	0	0	9	100.0%	100.0%
ENV 106	2003	Fall	4	1	1	1	1	3	2	1	14	50.0%	85.7%
	2005	Spring	9	5	0	0	0	3	0	0	17	82.4%	100.0%
ENV 120	2001	Spring	1	2	3	0	0	0	1	0	7	85.7%	85.7%
	2002	Spring	1	2	1	0	0	0	2	0	6	66.7%	66.7%
	2003	Spring	2	4	1	0	1	0	0	1	9	77.8%	100.0%
	2004	Spring	0	2	2	0	0	0	2	1	7	57.1%	71.4%
	2005	Spring	2	2	3	0	0	0	2	0	9	77.8%	77.8%
ENV 123	2004	Spring	4	1	0	0	1	1	2	0	9	55.6%	77.8%
ENV 200	2003	Fall	9	15	1	1	0	3	0	4	33	78.8%	100.0%
	2004	Fall	8	11	2	6	0	0	2	0	29	93.1%	93.1%
	2005	Fall	8	16	3	2	0	1	0	4	34	85.3%	100.0%

Grade XX = None of the above/unknown.

Success Rate: Percent of students successful in courses out of total enrolled in courses (RP Group, 1996).

The success rate is calculated by dividing the numerator (number of students duplicated with A, B, C, CR) by the denominator (number of students with A, B, C, D, F, NC, W, I, XX)

Retention Rate: Percent of students retained in courses out of total students enrolled in courses (RP Group, 1996).

The retention rate is calculated by dividing the numerator (number of students duplicated with A, B, C, D, F, CR, NC, I*, XX) by the denominator (number of students with A, B, C, D, F, CR, NC, W, I, XX).

**Environmental Studies & Ecological Restoration Program
Gender by Year/Term
Duplicated Headcount**

		F		M		X		Total	
		Count	Row %	Count	Row %	Count	Row %	Count	Row %
2001	Spring	93	45.4%	112	54.6%	0	.0%	205	100.0%
	Summer	7	38.9%	11	61.1%	0	.0%	18	100.0%
	Fall	110	50.9%	105	48.6%	1	.5%	216	100.0%
2002	Spring	107	52.7%	95	46.8%	1	.5%	203	100.0%
	Summer	15	68.2%	7	31.8%	0	.0%	22	100.0%
	Fall	105	44.9%	128	54.7%	1	.4%	234	100.0%
2003	Spring	97	48.5%	103	51.5%	0	.0%	200	100.0%
	Summer	9	56.3%	7	43.8%	0	.0%	16	100.0%
	Fall	114	45.6%	136	54.4%	0	.0%	250	100.0%
2004	Spring	107	51.7%	100	48.3%	0	.0%	207	100.0%
	Summer	17	63.0%	10	37.0%	0	.0%	27	100.0%
	Fall	106	46.1%	124	53.9%	0	.0%	230	100.0%
2005	Spring	87	44.4%	109	55.6%	0	.0%	196	100.0%
	Summer	13	72.2%	5	27.8%	0	.0%	18	100.0%
	Fall	121	45.5%	145	54.5%	0	.0%	266	100.0%

**Environmental Studies & Ecological Restoration Program by Zip Code
Duplicated Headcount**

		Saddleback Zip		Irvine Zip		Out of District or Missing		Total	
		Count	Row %	Count	Row %	Count	Row %	Count	Row %
2001	Spring	175	85.4%	7	3.4%	23	11.2%	205	100.0%
	Summer	7	38.9%	6	33.3%	5	27.8%	18	100.0%
	Fall	203	94.0%	6	2.8%	7	3.2%	216	100.0%
2002	Spring	188	92.6%	5	2.5%	10	4.9%	203	100.0%
	Summer	21	95.5%	1	4.5%	0	.0%	22	100.0%
	Fall	217	92.7%	5	2.1%	12	5.1%	234	100.0%
2003	Spring	184	92.0%	7	3.5%	9	4.5%	200	100.0%
	Summer	12	75.0%	1	6.3%	3	18.8%	16	100.0%
	Fall	221	88.4%	12	4.8%	17	6.8%	250	100.0%
2004	Spring	184	88.9%	8	3.9%	15	7.2%	207	100.0%
	Summer	26	96.3%	0	.0%	1	3.7%	27	100.0%
	Fall	206	89.6%	8	3.5%	16	7.0%	230	100.0%
2005	Spring	166	84.7%	10	5.1%	20	10.2%	196	100.0%
	Summer	14	77.8%	2	11.1%	2	11.1%	18	100.0%
	Fall	233	87.6%	8	3.0%	25	9.4%	266	100.0%

**Environmental Studies & Ecological Restoration Program
Ethnicity by Year/Term
Duplicated Headcount**

		Ethnic Groups																	
		Asian		African American		Hispanic		American Indian/Alaskan Native		Other		Pacific Islander		White		Unknown		Total	
		Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count	Row %
2001	Spring	13	6.3%	2	1.0%	26	12.7%	0	.0%	0	.0%	1	.5%	139	67.8%	24	11.7%	205	100%
	Summer	0	.0%	0	.0%	1	5.6%	0	.0%	0	.0%	0	.0%	17	94.4%	0	.0%	18	100%
	Fall	10	4.6%	0	.0%	24	11.1%	0	.0%	2	.9%	2	.9%	160	74.1%	18	8.3%	216	100%
2002	Spring	13	6.4%	1	.5%	18	8.9%	0	.0%	2	1.0%	1	.5%	148	72.9%	20	9.9%	203	100%
	Summer	1	4.5%	0	.0%	4	18.2%	1	4.5%	1	4.5%	0	.0%	11	50.0%	4	18.2%	22	100%
	Fall	22	9.4%	6	2.6%	29	12.4%	2	.9%	2	.9%	0	.0%	144	61.5%	29	12.4%	234	100%
2003	Spring	22	11.0%	2	1.0%	26	13.0%	2	1.0%	0	.0%	0	.0%	135	67.5%	13	6.5%	200	100%
	Summer	1	6.3%	0	.0%	3	18.8%	0	.0%	0	.0%	0	.0%	10	62.5%	2	12.5%	16	100%
	Fall	23	9.2%	0	.0%	22	8.8%	0	.0%	4	1.6%	2	.8%	166	66.4%	33	13.2%	250	100%
2004	Spring	17	8.2%	1	.5%	15	7.2%	2	1.0%	3	1.4%	2	1.0%	143	69.1%	24	11.6%	207	100%
	Summer	1	3.7%	1	3.7%	2	7.4%	0	.0%	0	.0%	0	.0%	20	74.1%	3	11.1%	27	100%
	Fall	14	6.1%	3	1.3%	25	10.9%	3	1.3%	3	1.3%	0	.0%	163	70.9%	19	8.3%	230	100%
2005	Spring	12	6.1%	2	1.0%	13	6.6%	3	1.5%	0	.0%	1	.5%	148	75.5%	17	8.7%	196	100%
	Summer	0	.0%	1	5.6%	1	5.6%	0	.0%	2	11.1%	0	.0%	11	61.1%	3	16.7%	18	100%
	Fall	22	8.3%	4	1.5%	28	10.5%	3	1.1%	6	2.3%	2	.8%	177	66.5%	24	9.0%	266	100%

**Environmental Studies & Ecological Restoration Program
Educational Goals by Year/Term
Duplicated Headcount**

	2001				2002				2003				2004				2005			
	Spring		Fall		Spring		Fall		Spring		Fall		Spring		Fall		Spring		Fall	
	Count	Column %	Count	Column %	Count	Column %	Count	Column %	Count	Column %	Count	Column %	Count	Column %	Count	Column %	Count	Column %	Count	Column %
AA/AS and transfer	65	31.7%	86	39.8%	65	32.0%	95	40.6%	75	37.5%	96	38.4%	61	29.5%	75	32.6%	73	37.2%	101	38.0%
Transfer w/o AA/AS	19	9.3%	19	8.8%	19	9.4%	17	7.3%	27	13.5%	24	9.6%	28	13.5%	34	14.8%	24	12.2%	39	14.7%
AA/AS w/o transfer	1	.5%	0	.0%	2	1.0%	0	.0%	3	1.5%	2	.8%	2	1.0%	2	.9%	2	1.0%	1	.4%
2-yr Voc. w/o transfer	7	3.4%	3	1.4%	4	2.0%	6	2.6%	3	1.5%	6	2.4%	5	2.4%	4	1.7%	0	.0%	0	.0%
Voc. certif. w/o transfer	24	11.7%	25	11.6%	29	14.3%	32	13.7%	33	16.5%	35	14.0%	43	20.8%	25	10.9%	30	15.3%	30	11.3%
Discover interests	9	4.4%	20	9.3%	12	5.9%	20	8.5%	10	5.0%	9	3.6%	15	7.2%	9	3.9%	6	3.1%	12	4.5%
Acquire job skills	33	16.1%	21	9.7%	27	13.3%	20	8.5%	13	6.5%	17	6.8%	18	8.7%	19	8.3%	20	10.2%	14	5.3%
Update job skills	4	2.0%	1	.5%	3	1.5%	2	.9%	7	3.5%	4	1.6%	5	2.4%	5	2.2%	3	1.5%	10	3.8%
Ed. development	21	10.2%	7	3.2%	11	5.4%	7	3.0%	4	2.0%	26	10.4%	10	4.8%	27	11.7%	7	3.6%	33	12.4%
Basic Skills	0	.0%	0	.0%	0	.0%	3	1.3%	3	1.5%	4	1.6%	3	1.4%	2	.9%	0	.0%	0	.0%
HS or GED	0	.0%	1	.5%	2	1.0%	0	.0%	0	.0%	0	.0%	1	.5%	2	.9%	1	.5%	1	.4%
Undecided	22	10.7%	33	15.3%	29	14.3%	32	13.7%	22	11.0%	27	10.8%	16	7.7%	26	11.3%	30	15.3%	25	9.4%
Total	205	100.0%	216	100.0%	203	100.0%	234	100.0%	200	100.0%	250	100.0%	207	100.0%	230	100.0%	196	100.0%	266	100.0%

**Awards for
Environmental Studies and Ecological Restoration
A.A and Certificate**

Count	Award		Total
	Environmental Studies A.A.	Ecological Restoration Certificate	
2002	5	2	7
2003	1	1	2
2004	2	3	5
Total	8	6	14

**Environmental Studies and Ecological Preservation
Cross Listed Courses
Program Review Data Set
April 2006**

Environmental Studies and Ecological Preservation Cross-Listed Courses Program Review Data Set

The following pages include:

6. **Course Section Count**
7. **C1 & End of Term Headcount**
8. **Overview of Courses, Grades, Success/Retention**
9. **Course Grades, Success/Retention**
10. **Environmental Studies and Ecological Preservation Program Students' Duplicated Headcount**
 - a. **Gender**
 - b. **Zip Code**
 - c. **Ethnicity**
 - d. **Educational Goal**

**Data Source: SOCCCD Management Information System (MIS) Data Warehouse April 2006
Prepared by Denice Inciong, Research and Planning Analyst, Saddleback College**

Course Section Count

Environ. Stud. & Ecol. Restor. Cross Listed Courses Course and Section Count by Term and Year

	Fall					Spring				
	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Section Count	Section Count	Section Count	Section Count	Section Count	Section Count	Section Count	Section Count	Section Count	Section Count
BIO 18	2	1	1	1	2	1	1	0	0	1
BIO 19	1	1	0	0	0	0	0	0	1	1
BIO 24	1	1	1	1	1	1	1	1	1	1
BIO 25	0	1	0	1	0	0	0	0	0	0
BIO 106	0	0	1	0	0	0	0	0	0	1
CHEM 120	0	0	0	0	0	1	1	1	1	1
ECON 6	0	0	0	0	0	1	0	0	0	0
GEOL 23	3	3	2	2	2	2	3	2	2	2
HORT 123	0	0	0	0	0	0	0	0	1	0
Total	7	7	5	5	5	6	6	4	6	7

C1 Headcount

**Environ. Stud. & Ecol. Restor. Cross Listed Courses
C1 Headcount by Course/Term/Year**

	Fall					Spring				
	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	C1 Headcount	C1 Headcount	C1 Headcount	C1 Headcount	C1 Headcount	C1 Headcount	C1 Headcount	C1 Headcount	C1 Headcount	C1 Headcount
BIO 18	7	10	7	6	9	9	11	.	.	7
BIO 19	13	16	.	.	.	.	.	.	12	11
BIO 24	0	0	0	0	0	0	0	0	0	0
BIO 25	.	3	.	4	.	.	.	.	.	.
BIO 106	.	.	8	.	.	.	.	.	.	1
CHEM 120	.	.	.	.	.	20	16	16	20	13
ECON 6	.	.	.	.	.	2	.	.	.	.
GEOL 23	17	26	25	17	13	22	26	14	11	9
HORT 123	.	.	.	.	.	.	.	.	1	.
Total	37	55	40	27	22	53	53	30	44	41

End of Term Headcount

Environ. Stud. & Ecol. Restor. Cross Listed Courses End of Term Enrollment by Course/Term/Year

	Fall					Spring				
	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	End of Term Enrollment	End of Term Enrollment	End of Term Enrollment	End of Term Enrollment	End of Term Enrollment	End of Term Enrollment	End of Term Enrollment	End of Term Enrollment	End of Term Enrollment	End of Term Enrollment
BIO 18	7	10	7	6	9	9	11	0	0	7
BIO 19	13	16	0	0	0	0	0	0	12	11
BIO 24	8	3	4	4	9	7	10	11	6	5
BIO 25	0	3	0	4	0	0	0	0	0	0
BIO 106	0	0	8	0	0	0	0	0	0	1
CHEM 120	0	0	0	0	0	20	16	16	20	13
ECON 6	0	0	0	0	0	2	0	0	0	0
GEOL 23	19	26	25	17	13	22	26	14	11	9
HORT 123	0	0	0	0	0	0	0	0	1	0
Total	47	58	44	31	31	60	63	41	50	46

Summary of Courses, Grades, Success/Retention

Environ. Stud. & Ecol. Restor. Cross Listed Courses Summary of All Courses by Grade/Success/Retention

		Grades										success	retention	
		A	B	C	CR	D	F	I	NC	W	XX	Total		
		Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Percent	Percent
2001	Spring	13	11	11	2	2	8	1	0	5	7	60	61.7%	91.7%
	Fall	7	12	9	2	3	8	1	0	3	2	47	63.8%	93.6%
2002	Spring	19	18	7	1	2	2	1	0	9	4	63	71.4%	85.7%
	Fall	11	15	11	0	1	10	2	0	5	3	58	63.8%	91.4%
2003	Spring	6	8	14	0	2	2	0	1	4	4	41	68.3%	90.2%
	Fall	8	10	16	0	1	4	1	0	2	2	44	77.3%	95.5%
2004	Spring	8	6	10	1	2	1	0	0	5	17	50	50.0%	90.0%
	Fall	4	6	3	0	1	5	3	0	7	2	31	41.9%	77.4%
2005	Spring	10	10	14	1	3	4	0	0	1	3	46	76.1%	97.8%
	Fall	8	8	5	0	2	3	1	0	2	2	31	67.7%	93.5%

Grade XX = None of the above/unknown.

Success Rate: Percent of students successful in courses out of total enrolled in courses (RP Group, 1996).

The success rate is calculated by dividing the numerator (number of students duplicated with A, B, C, CR) by the denominator (number of students with A, B, C, D, F, CR, NC, W, I, XX)

Retention Rate: Percent of students retained in courses out of total students enrolled in courses (RP Group, 1996).

The retention rate is calculated by dividing the numerator (number of students duplicated with A, B, C, D, F, CR, NC, I, XX) by the denominator (number of students with A, B, C, D, F, CR, NC, I, XX).

**Environ. Stud. & Ecol. Restor. Cross Listed Courses
Courses by Grade/Success/Retention**

			Grades									success	retention		
			A	B	C	CR	D	F	I	NC	W	XX	Total		
			Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Percent	Percent
BIO 18	2001	Spring	0	3	2	0	1	2	0	0	0	1	9	55.6%	100.0%
		Fall	1	3	1	0	0	1	0	0	0	1	7	71.4%	100.0%
	2002	Spring	5	4	0	0	0	0	0	0	1	1	11	81.8%	90.9%
		Fall	3	4	1	0	0	0	0	0	1	1	10	80.0%	90.0%
	2003	Fall	1	3	2	0	1	0	0	0	0	0	7	85.7%	100.0%
	2004	Fall	0	1	1	0	1	1	0	0	2	0	6	33.3%	66.7%
	2005	Spring	2	2	2	0	0	0	0	0	0	1	7	85.7%	100.0%
		Fall	1	3	1	0	2	1	0	0	1	0	9	55.6%	88.9%
BIO 19	2001	Fall	2	2	2	0	0	5	0	0	1	1	13	46.2%	92.3%
	2002	Fall	2	3	1	0	1	7	0	0	2	0	16	37.5%	87.5%
	2004	Spring	0	0	0	0	0	0	0	0	1	11	12	.0%	91.7%
	2005	Spring	1	5	2	0	1	1	0	0	1	0	11	72.7%	90.9%
BIO 24	2001	Spring	2	0	0	2	0	0	1	0	0	2	7	57.1%	100.0%
		Fall	1	3	1	2	0	0	1	0	0	0	8	87.5%	100.0%
	2002	Spring	3	3	1	0	1	0	1	0	1	0	10	70.0%	90.0%
		Fall	1	1	0	0	0	0	1	0	0	0	3	66.7%	100.0%
	2003	Spring	4	0	2	0	1	0	0	1	0	3	11	54.5%	100.0%
		Fall	2	0	1	0	0	0	1	0	0	0	4	75.0%	100.0%
	2004	Spring	2	1	2	0	1	0	0	0	0	0	6	83.3%	100.0%
		Fall	2	1	0	0	0	0	1	0	0	0	4	75.0%	100.0%
	2005	Spring	2	0	1	1	1	0	0	0	0	0	5	80.0%	100.0%
		Fall	4	1	1	0	0	0	1	0	0	2	9	66.7%	100.0%
BIO 25	2002	Fall	1	1	0	0	0	1	0	0	0	3	66.7%	100.0%	
	2004	Fall	1	1	0	0	0	1	0	0	1	4	50.0%	100.0%	
BIO 106	2003	Fall	2	1	2	0	0	3	0	0	0	8	62.5%	100.0%	
	2005	Spring	1	0	0	0	0	0	0	0	0	1	100.0%	100.0%	

Grade XX = None of the above/unknown.

Success Rate: Percent of students successful in courses out of total enrolled in courses (RP Group, 1996).

The success rate is calculated by dividing the numerator (number of students duplicated with A, B, C, CR) by the denominator (number of students with A, B, C, D, F, CR, NC, W, I, XX)

Retention Rate: Percent of students retained in courses out of total students enrolled in courses (RP Group, 1996).

The retention rate is calculated by dividing the numerator (number of students duplicated with A, B, C, D, F, CR, NC, I*, XX) by the denominator (number of students with A, B, C, D, F, CR, NC, W, I, XX).

**Environ. Stud. & Ecol. Restor. Cross Listed Courses
Courses by Grade/Success/Retention**

			Grades									success	retention	
			A	B	C	CR	D	F	I	W	XX	Total		
			Count	Count	Count	Count	Count	Count	Count	Count	Count	Count	Percent	Percent
CHEM 120	2001	Spring	2	4	4	0	0	3	0	3	4	20	50.0%	85.0%
	2002	Spring	3	4	3	0	1	0	0	4	1	16	62.5%	75.0%
	2003	Spring	1	8	5	0	0	0	0	2	0	16	87.5%	87.5%
	2004	Spring	5	3	4	1	1	1	0	1	4	20	65.0%	95.0%
	2005	Spring	3	3	5	0	0	1	0	0	1	13	84.6%	100.0%
ECON 6	2001	Spring	1	1	0	0	0	0	0	0	0	2	100.0%	100.0%
GEOL 23	2001	Spring	8	3	5	0	1	3	0	2	0	22	72.7%	90.9%
		Fall	3	4	5	0	3	2	0	2	0	19	63.2%	89.5%
	2002	Spring	8	7	3	1	0	2	0	3	2	26	73.1%	88.5%
		Fall	4	6	9	0	0	2	1	2	2	26	73.1%	92.3%
	2003	Spring	1	0	7	0	1	2	0	2	1	14	57.1%	85.7%
		Fall	3	6	11	0	0	1	0	2	2	25	80.0%	92.0%
	2004	Spring	1	2	4	0	0	0	0	3	1	11	63.6%	72.7%
		Fall	1	3	2	0	0	3	2	5	1	17	35.3%	70.6%
2005	Spring	1	0	4	0	1	2	0	0	1	9	55.6%	100.0%	
	Fall	3	4	3	0	0	2	0	1	0	13	76.9%	92.3%	
HORT 123	2004	Spring	0	0	0	0	0	0	0	0	1	1	.0%	100.0%

Grade XX = None of the above/unknown.

Success Rate: Percent of students successful in courses out of total enrolled in courses (RP Group, 1996).

The success rate is calculated by dividing the numerator (number of students duplicated with A, B, C, CR) by the denominator (number of students with A, B, C, D, F, CR, NC, W, I, XX)

Retention Rate: Percent of students retained in courses out of total students enrolled in courses (RP Group, 1996).

The retention rate is calculated by dividing the numerator (number of students duplicated with A, B, C, D, F, CR, NC, I*, XX) by the denominator (number of students with A, B, C, D, F, CR, NC, W, I, XX).

**Environ. Stud. & Ecol. Restor. Cross Listed Courses
Gender by Year/Term
Duplicated Headcount**

		F		M		Total	
		Count	Row %	Count	Row %	Count	Row %
2001	Spring	37	61.7%	23	38.3%	60	100.0%
	Fall	28	59.6%	19	40.4%	47	100.0%
2002	Spring	38	60.3%	25	39.7%	63	100.0%
	Fall	33	56.9%	25	43.1%	58	100.0%
2003	Spring	25	61.0%	16	39.0%	41	100.0%
	Fall	19	43.2%	25	56.8%	44	100.0%
2004	Spring	28	56.0%	22	44.0%	50	100.0%
	Fall	16	51.6%	15	48.4%	31	100.0%
2005	Spring	26	56.5%	20	43.5%	46	100.0%
	Fall	14	45.2%	17	54.8%	31	100.0%

**Environ. Stud. & Ecol. Restor. Cross Listed Courses by Zip Code
Duplicated Headcount**

		Saddleback Zip		Irvine Zip		Out of District or Missing		Total	
		Count	Row %	Count	Row %	Count	Row %	Count	Row %
2001	Spring	55	91.7%	2	3.3%	3	5.0%	60	100.0%
	Fall	41	87.2%	2	4.3%	4	8.5%	47	100.0%
2002	Spring	56	88.9%	1	1.6%	6	9.5%	63	100.0%
	Fall	52	89.7%	3	5.2%	3	5.2%	58	100.0%
2003	Spring	39	95.1%	0	.0%	2	4.9%	41	100.0%
	Fall	43	97.7%	0	.0%	1	2.3%	44	100.0%
2004	Spring	49	98.0%	0	.0%	1	2.0%	50	100.0%
	Fall	27	87.1%	2	6.5%	2	6.5%	31	100.0%
2005	Spring	44	95.7%	2	4.3%	0	.0%	46	100.0%
	Fall	27	87.1%	0	.0%	4	12.9%	31	100.0%

**Environ. Stud. & Ecol. Restor. Cross Listed Courses
Ethnicity by Year/Term
Duplicated Headcount**

		Ethnic Groups																	
		Asian		African American		Hispanic		American Indian/Alaskan Native		Other		Pacific Islander		White		Unknown		Total	
		Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count	Row %	Count	Row %
2001	Spring	3	5.0%	2	3.3%	5	8.3%	1	1.7%	1	1.7%	1	1.7%	44	73.3%	3	5.0%	60	100.0%
	Fall	1	2.1%	0	.0%	7	14.9%	0	.0%	1	2.1%	0	.0%	35	74.5%	3	6.4%	47	100.0%
2002	Spring	3	4.8%	0	.0%	9	14.3%	0	.0%	0	.0%	1	1.6%	46	73.0%	4	6.3%	63	100.0%
	Fall	3	5.2%	0	.0%	10	17.2%	0	.0%	1	1.7%	0	.0%	42	72.4%	2	3.4%	58	100.0%
2003	Spring	1	2.4%	0	.0%	5	12.2%	0	.0%	0	.0%	0	.0%	32	78.0%	3	7.3%	41	100.0%
	Fall	3	6.8%	0	.0%	5	11.4%	1	2.3%	0	.0%	0	.0%	32	72.7%	3	6.8%	44	100.0%
2004	Spring	2	4.0%	2	4.0%	5	10.0%	1	2.0%	2	4.0%	0	.0%	34	68.0%	4	8.0%	50	100.0%
	Fall	1	3.2%	1	3.2%	3	9.7%	1	3.2%	1	3.2%	0	.0%	19	61.3%	5	16.1%	31	100.0%
2005	Spring	2	4.3%	0	.0%	5	10.9%	0	.0%	0	.0%	0	.0%	31	67.4%	8	17.4%	46	100.0%
	Fall	3	9.7%	1	3.2%	3	9.7%	1	3.2%	0	.0%	1	3.2%	20	64.5%	2	6.5%	31	100.0%

**Environ. Stud. & Ecol. Restor. Cross Listed Courses
Educational Goals by Year/Term
Duplicated Headcount**

	2001				2002				2003				2004				2005			
	Spring		Fall		Spring		Fall		Spring		Fall		Spring		Fall		Spring		Fall	
	Count	Column %	Count	Column %	Count	Column %	Count	Column %	Count	Column %	Count	Column %	Count	Column %	Count	Column %	Count	Column %	Count	Column %
AA/AS and transfer	17	28.3%	20	42.6%	21	33.3%	22	37.9%	17	41.5%	16	36.4%	15	30.0%	17	54.8%	15	32.6%	6	19.4%
Transfer w/o AA/AS	9	15.0%	6	12.8%	12	19.0%	7	12.1%	8	19.5%	4	9.1%	9	18.0%	3	9.7%	8	17.4%	8	25.3%
AA/AS w/o transfer	0	.0%	0	.0%	2	3.2%	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%
2-yr Voc. w/o transfer	2	3.3%	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	1	2.2%	0	.0%
Voc. certif. w/o transfer	7	11.7%	5	10.6%	8	12.7%	7	12.1%	9	22.0%	8	18.2%	11	22.0%	4	12.9%	6	13.0%	4	12.9%
Discover interests	4	6.7%	2	4.3%	7	11.1%	5	8.6%	0	.0%	3	6.8%	2	4.0%	1	3.2%	1	2.2%	2	6.3%
Acquire job skills	4	6.7%	4	8.5%	5	7.9%	8	13.8%	1	2.4%	3	6.8%	4	8.0%	2	6.5%	3	6.5%	3	9.7%
Update job skills	1	1.7%	1	2.1%	2	3.2%	1	1.7%	1	2.4%	0	.0%	3	6.0%	1	3.2%	1	2.2%	3	9.7%
Ed. development	10	16.7%	2	4.3%	2	3.2%	1	1.7%	1	2.4%	1	2.3%	0	.0%	0	.0%	4	8.7%	2	6.3%
Basic Skills	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	1	2.3%	0	.0%	1	3.2%	0	.0%	1	3.2%
HS or GED	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	2	4.5%	0	.0%	1	3.2%	2	4.3%	0	.0%
Undecided	6	10.0%	7	14.9%	4	6.3%	7	12.1%	4	9.8%	6	13.6%	6	12.0%	1	3.2%	5	10.9%	2	6.3%
Total	60	100.0%	47	100.0%	63	100.0%	58	100.0%	41	100.0%	44	100.0%	50	100.0%	31	100.0%	46	100.0%	31	100.0%

E. Others