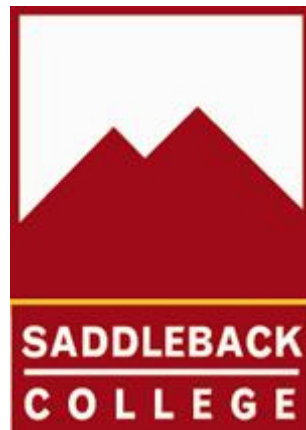


# **Saddleback College Program Review**



**Submitted Fall 2011**

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## **Program Review Team Members and Approvals**

Program Review Team Chair:

**Morgan E. Barrows**

Program Review Team Members:

**Morgan E. Barrows**

**John Richards**

**Don Taylor**

## Program Review Checklist

Date Completed	Action
Spring 2011	Contact EPA Chair for orientation
Spring 2011	Form Program Review Team (PRT)
Summer 2011	Gather documents (Org Chart/Staffing Profile/SLO Assessment Forms/Data Sets)
Spring 2011	Solicit input from faculty and students
Spring 2011	Determine if additional research is needed
NA	Contact College Research Specialist if necessary
Fall 2011	Write Program Review report
Fall 2011	Submit report to Dean and EPA Chair for review
Fall 2011	Report submitted to Academic Senate for acceptance
Fall 2011	Report submitted to the President and the Vice President of Instruction
TBD	Report posted to the EPA website
TBD	Presentation to the Consultation Council

# 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 for 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 values 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

Saddleback College enriches its students and the south Orange County community by providing a comprehensive array of high-quality courses and programs that foster student learning and success in the attainment of academic degrees and career technical certificates, transfer to four-year institutions, improvement of basic skills, and lifelong learning.

#### Values of Saddleback College

Saddleback College offers 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 embraces:

- **Commitment**  
We commit to fulfilling our mission to serve the south Orange County community.
- **Excellence**  
We dedicate ourselves to excellence in academics, student support, and community service.
- **Collegiality**  
We foster a climate of integrity, honesty, and respect.
- **Success**  
We place our highest priority on student learning and delivering comprehensive support for student success.
- **Partnership**  
We strive to develop strong and lasting partnerships among students, faculty, staff, and the community.
- **Innovation**  
We anticipate and welcome change by encouraging innovation and creativity.

- **Academic Freedom**  
We endorse academic freedom and the open exchange of ideas.
- **Sustainability**  
We promote environmental sustainability and use our resources responsibly to reduce our ecological impact.
- **Inclusiveness**  
We cultivate equity and diversity by embracing all cultures, ideas, and perspectives.
- **Global Awareness**  
We recognize the importance of global awareness and prepare our students to live and work in an increasingly interconnected world.

### **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 topics 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.

In Fall 2009, the Environmental Studies program also began offering a Sustainability Studies Occupational Skills Award, which was designed for students to gain necessary skills in one academic year or less. The occupational skills award was developed in response to the increasing demand in sustainability-related jobs

The Environmental Studies program is responsible for maintenance of the California Native Garden, which is a natural environment that contains only California native species. The purpose of the California Native Garden 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 a small amphitheater that is available for presentations or lectures. In addition, there is an area that is devoted to California wildflowers. The California Native Garden is also open to all members of the college community and the public as a natural setting where they can connect with nature.

In 2009, the MorganTree Environmental Awareness Educational Scholarship was also created to help provide financial support to Saddleback College students majoring in the environmental field.

### **C. Progress Since the Last Program Review**

The 21st century has been called the “century of the environment.” As the world population increases and natural resources decrease, there has become an increasing demand for sustainability. Society needs to learn how to live within the means of the planet. Individuals, business, and industries need to find a way to use resources without jeopardizing future generations. The environmental field has grown tremendously over the last four decades and it is believed that it will continue to increase, especially as we become more sustainable in our endeavors. Currently, there are over 200 “green” jobs identified and most of them arose out of the demand to become more sustainable. In response to this increased demand, the Environmental Studies Department decided offer a Sustainability Studies Occupational Skills Award, which was designed for students to gain necessary skills in one academic year or less.

The Environmental Studies Department also updated its curriculum and created new courses in green living, environmental ethics, and environmental law and policy. The Ecological Restoration certificate was also changed to allow students more flexibility in not only obtaining the certificate but also allowing students to focus more on their own personal interest.

Since the hiring of a 20 hour part-time laboratory technician in May 2006, the department has a dedicated staff member that runs and oversees the environmental studies lab. With this added help, the department has been able to grow in number of lab sections offered. For example, the number of ENV 18 – Introduction to Ecology lab sections grew from one lab section a semester to three a semester. The department is now interested in making this position a full-time position so the department can continue to enhance all the lab sections, enhance the quality of teaching, and provide the program the ability to grow.

### **D. Utilization of Student Learning Outcomes**

Since the implementation of program-level student learning outcomes, the department has surveyed the students in the environmental studies classes to determine if they were satisfied with the information and concepts they gained from each class in the program. The results of the survey indicated that 95% of the students were in fact satisfied with the information and concepts gained from the classes. The survey also provided the department with suggestions that could further enhance the program. This has led to the creation of special topic courses, fieldtrips, guest speakers, and additional hands-on learning opportunities.

The program also emphasizes critical thinking so through the assessment of student learning outcomes the department was able to determine if students could actually thinking critically about environmental

issues. It was found that as the students progressed through the program, their critical thinking skills improved. As a result, more emphasis has been placed on teaching critical thinking skills in the introductory classes.

The assessment of student learning outcomes has also helped the department in refining the information competency component to both introductory courses. Currently, 88% of the students taking ENV 1 and ENV 18 demonstrate scientific literacy and ability to engage in scientific inquiry concerning environmental issues through the evaluation and analysis of scientific literature, and presentation of results in written and oral form.

## **E. Current Strengths, Opportunities, and Challenges**

### **E1. 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 major 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. Many students become involved in a wide range of volunteer activities to support their commitment to environmental issues.

### **E2. Opportunities**

There is a continued level of 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 2010-11, employment of environmental scientists and specialists is expected to increase by 28 percent between 2008 and 2018, much faster than the average for all occupations. Also, employment of environmental science and protection technicians is expected to grow much faster than average, at a rate of 29 percent; these workers will be needed to help regulate waste products; to collect air, water, and soil samples for measuring levels of pollutants; to monitor compliance with environmental regulations; and to clean up contaminated sites. 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.

Unfortunately, when the Ecological Restoration program was approved, it was only approved as a certificate. Now with the increased student interest in the field, the department is now considering creating a degree program for Ecological Restoration. According to the California Employment Development Department (2010), there will be a 12 percent increase in new jobs for ecologists from 2010 – 2018. This doesn't include the 33 percent of current jobs that will need to be replaced by 2018.

There is also an increasing demand for a water program to be developed at the community college level in Southern California. Not only is water supply and quality global and national issues, but they are major issues facing southern California. Not only do you have the employment growth of environmental scientists, but there is an expected 18 percent employment growth for hydrologists between 2008 and 2018, which is faster than the average for all occupations (Bureau of Labor Statistics' Occupational Outlook Handbook 2010-11). Most of this demand will come from the need for energy, environmental protection, and responsible land and water management. In addition, the University of California, Irvine has a water program so the Environmental Studies Department would develop a relationship that would benefit the students pursuing a higher degree in the field.

Fall 2011, the department offered a special topics course "Certified Interpretive Guide Training" that follows the National Association for Interpretation curriculum so students can become nationally certified at the end of the course. At the end of the course, 24 students became nationally certified. Due to the demand and success of the course, it was decided to make it a permanent course. Therefore, another opportunity is to develop a second occupational skills award focusing on docent training for people interested in working at local, state, and national parks.

### **E3. Challenges**

The biggest challenge facing the department is the inability to meet the current interest in the environmental field. 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. In order for the program to grow, a second full-time faculty member will need to be hired.

Another challenge is the lack of a full-time laboratory technician. The department has basically reached its capacity in terms of number of lab sections that can be offered in a semester. It will be ultimately impossible for the program to grow without a full-time lab technician.

The lack of facilities is another challenge that the department faces. The lab that the environmental studies classes use is limited and needs to be updated. Hopefully, when the ATAS building is renovated the lab will be renovated to meet the needs of the department. The storage space for the department is limited. It is very difficult to find a place to store equipment and supplies. Finally, we lack a proper work environment for the environmental studies lab technician.

The OSH budget for the department has the potential to be a challenge. The department has had to restrict class offerings to stay within OSH allotments. This is become more of an issue as class interest increases and if a new water program is developed.

Finally, there is the challenge of running and maintaining the California Native Garden. Unfortunately, the department's budget for the garden has been eliminated. Therefore, there is no money for supplies, a project specialist, or even student help. Currently, the garden is being maintained by students who earn extra credit for working in the garden. More importantly, in order to maintain the safety of the native garden, the departments needs to either increase the current laboratory technician to full-time or hire a second part-time laboratory technician to specifically oversee the garden. Without proper management, the California Native Garden poses several general hazards, and could even become a potential fire hazard. Someone needs 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. The California Native Garden 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 eight associate faculty members at this time. It is important to note that the department has only increased the number of sections from 21 sections in 2005-06 to 23 in 2010-11, but the student headcount has increased from 510 to 865, respectively. In order to meet current demand, the full-time faculty member teaches three large lectures and at least one additional class as overload every semester. Approximately, 55% of the teaching load is taken on by the only full-time faculty. It has been necessary to hire additional associate faculty members to help meet the demand. However, there is definitely a need for the addition of a second full-time faculty member to support the continued growth of the department.

There is also currently one 20 hour part-time classified staff, which is shared with the Marine Science Technology department. The laboratory technician directly supports all aspects of the Environmental Studies program and the student's success. The laboratory technician activities includes support ensuring that educational materials are readily available to support all of the classes, students receive supplemental materials when requested, and ongoing marketing of the program continues through college sanctioned events. Lastly, under the direction of the laboratory technician, students gain educational knowledge from volunteering in the California Native Garden about the importance of California Native Plants, specialized California Ecosystems, and how to properly care for plants in garden. There is no doubt that the department will be unable to meet future demand without an increase classified staff hours.

With the current Laboratory Technician's workload, there is insufficient time for any significant time to be dedicated to the California Native Garden except when there are assigned periods for student volunteers to perform activities in the area. During the Spring and Fall 2011 semesters, there were approximately 60 hours set aside for the student garden volunteers to perform the ongoing maintenance activities. This level of effort is insufficient to maintain an area that is approximately 2 acres. Therefore, it is necessary to increase the part-time laboratory technician to full-time or hire a 20 hour part-time classified staff member that will oversee, run, and maintain the California Native Garden.

The Environmental Studies Department is fortunate to have a Dean that strongly supports the Environmental Studies program and needs of its students. Therefore, it is believed that there does not currently need to be a change in administration.

In order for the department to run more effectively, the following must occur:

- Hire a second full-time faculty member and possibly more associate faculty members if it plans on growing and adding more classes.
- Increase the hours of the current laboratory technician to full-time (40 hours).
- Hire a 20 hour part-time classified staff member that will oversee, run, and maintain the California Native Garden.

### B. Curriculum and Instruction

The Environmental Studies Department offers one AA degree in Environmental Studies (Table 1), one certificate in Ecological Restoration (Table 2), and an occupational skills award in Sustainability Studies (Table 3). 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 2011 which will go into effect in Fall 2012. The biggest change will be removing the concurrent enrollment requirement of ENV 105 and CWE 180 courses.

**Table 1 – Environmental Studies Degree**

<b>Course ID</b>	<b>Title</b>	<b>Units</b>
ENV 1	Introduction to Environmental Studies	3.0
ENV 18	Introduction to Ecology	4.0
	<b>Select 13 units from Restricted Electives</b>	
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 37	Environmental Ethics	3.0
ENV 40	Environmental Law and Policy	3.0
ENV 105*	Environmental Studies Internship	2.0
CWE 180*	Cooperative Work Experience: Environmental Studies	1.0-2.0
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
<b>Total</b>		<b>20</b>

\*ENV 105 and CWE 180 need to be taken concurrently

**Table 2 – Ecological Restoration Certificate**

<b>Course ID</b>	<b>Title</b>	<b>Units</b>
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
	<b>Select 13 units from Restricted Electives</b>	
ENV 24	Natural History of California	3.0
ENV 105*	Environmental. Studies Internship	2.0
CWE 180*	Cooperative Work Experience: Ecological Restoration	1.0-2.0
ENV 123	Water and Soil Conservation	3.0
ENV 189	Special Topics	0.5-4.0
ENV 202	Green Living	2.0
HORT 113	Soils and Fertilizer	3.0
HORT 116	Irrigation Systems	3.0
HORT 166	Ornamental Native Plants	1.5
<b>Total</b>		<b>28</b>

\*ENV 105 and CWE 180 need to be taken concurrently

**Table 3 – Sustainability Studies Occupational Skills Award**

<b>Course ID</b>	<b>Title</b>	<b>Units</b>
ENV 1	Introduction to Environmental Studies	3.0
ENV 6	Scarcity and Environment	3.0
ENV 37	OR Environmental Ethics	
ENV 202	Green Living	2.0
	<b>Select 6 units from Restricted Electives</b>	
ENV 30	Alternative Energy Technologies	3.0
ENV 106	Natural Resource Conservation	3.0
ENV 123	Water and Soil Conservation	3.0
<b>Total</b>		<b>14</b>

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 (65%) taking environmental studies classes have an educational goal of transferring to a four year university (Table 4). Approximately 10% of the environmental studies students take classes to earn career technical certificate or to acquire/update job skills (Table 1). Therefore, it is necessary to offer a variety of classes that meet the different needs of the students.

**Table 4 – Summary of Educational Goals by Year**

<b>Educational Goal</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>	<b>2009-10</b>	<b>2010-11</b>
Obtain a Bachelor's degree after Assoc.	162	197	255	292	332	343
Obtain a Bachelor's degree w/o Assoc.	63	61	87	86	119	104
Undecided on goal	54	53	66	98	89	86
Obtain a voc certificate and transfer	63	59	68	53	33	32
Personal Development	39	26	33	19	31	25
Prepare for a new career	26	20	19	18	20	24
Discover/develop career interests	25	21	17	22	22	16
4 yr col std taking crs to meet 4 yr requirements				13	28	75
Advance in current job/career	14	6	13	9	17	9
Obtain a non-voc degree w/o transfer	3	8	4	7	11	4
Improve basic skills		1	10	5	7	8
Obtain two-year voc. degree w/o transfer	4	4	5	2	5	4
Obtain a voc certificate w/o transfer	2	6		3	6	6
Complete credits for HS diploma or GED	4	1	4	5	2	4
Maintain license	1	1	2	2		2
To move fr NCR coursework to CR coursework					1	1
		1				
<b>Total Students</b>	<b>460</b>	<b>465</b>	<b>583</b>	<b>634</b>	<b>723</b>	<b>743</b>

Data Source: SOCCCD InForm July 2011

Environmental studies courses are tied directly to the mission of Saddleback College as the department offers a comprehensive array of high-quality courses and programs that foster student learning and success in the attainment of an academic degree, a career technical certificate, transfer to four-year institutions, and/or lifelong learning. The only component of the mission that the environmental studies courses do not fulfill is basic skills.

The Environmental Studies Department offers a broad range of classes (Table 5). Not only does the department offers courses that satisfy requirements for an AA degree, a certificate, and an occupational skills awards, some of the courses meet general education and information competency requirements.

All courses in the Environmental Studies Department are reviewed and updated on a five year cycle, except ECOL 201 and 202, which are reviewed and updated every two years. During Fall 2011, two new courses were developed. One course will initially be a standalone course, but there is a potential for it to be offered as part of a new occupational skills award. The second course is an existing course that was cross-listed with the economics department, but the economics department decided to eliminate it so the Environmental Studies Department decided to adopt the course.

**Table 5 – Environmental Studies and Ecological Restoration Courses Offered**

Course	Department Cross-listed	Degree Support and Transferability					
		Certificate	AA	General Education	Information Competency	CSU	UC
ECOL 201		YES					
ECOL 202		YES					
ENV 1		YES	YES	YES	YES	YES	YES
ENV 18		YES	YES	YES	YES	YES	YES
ENV 23	Geology*		YES	YES		YES	YES
ENV 24		YES	YES			YES	YES
ENV 25			YES			YES	YES
ENV 30			YES			YES	YES
ENV 37			YES			YES	YES
ENV 40			YES			YES	YES
ENV 105		YES	YES			YES	
ENV 106			YES			YES	
ENV 120	Chemistry*		YES			YES	
ENV 123		YES	YES			YES	
ENV 189			YES			YES	
ENV 200							
ENV 202		YES					
CWE180		YES	YES			YES	

\*Environmental Studies holds the D ticket.

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.

Instructional goals, course objectives, and student learning outcomes 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.

Since the implementation of program-level student learning outcomes, the department has surveyed the students in the environmental studies classes to determine if they were satisfied with the information and concepts they gained from each class in the program. The results of the survey indicated that 95% of the students were in fact satisfied with the information and concepts gained from the classes. The survey also provided the department with suggestions that could further enhance the program. This has led to the creation of special topic courses, fieldtrips, guest speakers, and more hands-on learning opportunities.

The program also emphasizes critical thinking so through the assessment of student learning outcomes the department was able to determine if students could actually thinking critically about environmental issues. It was found that as the students progressed through the program, their critical thinking skills improved. As a result, more emphasis has been placed on teaching critical thinking skills in the introductory classes.

The assessment of student learning outcomes has also helped the department in refining the information competency component to both introductory courses. Currently, 88% of the students taking ENV 1 and ENV 18 demonstrate scientific literacy and ability to engage in scientific inquiry concerning environmental issues through the evaluation and analysis of scientific literature, and presentation of results in written and oral form.

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 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.

The greatest weakness to instruction is the lack of facilities. There is simply not enough room to support the number of students or the instructional equipment.

### C. Student Success

The department averages 21 sections each semester and at least one section in the summer for the last six years (Table 6). The average enrollment per section has increased from 24 to 38 students (Table 3). It is important to note that every year the end of year headcount has increased starting with 510 students for the 2005-06 academic year and ending with 865 students for the 2010-11 academic year.

**Table 6 – Access and Productivity**

	Academic Year					
	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Number of Course Sections Offered	21	17	21	21	23	23
End of Term Headcount	510	535	657	726	819	865
Average Enrollment per Section	24	32	31	35	36	38

Data Source: SOCCCD InForm July 2011

Students are very successful in environmental studies classes. In 2010-11, 79% of the enrolled students earned a passing (Table 6). Although a small percentage (21%) of the enrolled students earned a D or lower, 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, which includes drops, withdrawals, incompletes, and not available. The primary focus will be to lower the number of students who withdrawal from the classes.

**Table 6 – Summary of Grades by Year**

	A	B	C	CR	P	D	F	NC	NP	Total	Other	Total
<b>2005-06</b>	153	125	70	4	0	30	77	0	0	<b>459</b>	241	<b>700</b>
<b>2006-07</b>	178	116	81	8	0	27	52	3	0	<b>465</b>	212	<b>677</b>
<b>2007-08</b>	191	166	108	9	0	37	79	3	0	<b>593</b>	313	<b>906</b>
<b>2008-09</b>	261	147	80	3	0	47	110	2	0	<b>650</b>	314	<b>964</b>
<b>2009-10</b>	271	153	108	0	7	41	120	0	0	<b>700</b>	382	<b>1082</b>
<b>2010-11</b>	259	186	143	0	7	47	108	0	2	<b>752</b>	404	<b>1156</b>

Data Source: SOCCCD InForm July 2011

The Environmental Studies Department has an Average Successful Course Completion Rate of 72.5% with a high 92.5% Average Course Term Retention Rate (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**

	<b>Success</b>	<b>Retention</b>
<b>2005-06</b>	71.8	93.7
<b>2006-07</b>	75.7	91.9
<b>2007-08</b>	74.4	93.1
<b>2008-09</b>	70.2	93.0
<b>2009-10</b>	69.2	90.0
<b>2010-11</b>	73.8	93.3
<b>Average</b>	<b>72.52%</b>	<b>92.5%</b>

Data Source: SOCCCD InForm July 2011

The Environmental Studies Department has a relatively low completion rate of Associate of Arts degrees and certificates. Between 2005 and 2010 only 32 students earned an A.A. in Environmental Studies and only 9 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.

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

<b>Awards by Major</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
ECOLOGICAL RESTORATION	2	2		1	2	2
ENVIRONMENTAL STUDIES	3	8	4	3	8	6
<b>Total Awards</b>	<b>5</b>	<b>10</b>	<b>4</b>	<b>4</b>	<b>10</b>	<b>8</b>

Data Source: SOCCCD InForm July 2011

The Environmental Studies Department is currently working with the Transfer Center on a pilot program with California State University, Long Beach. It is a transfer admission guarantee to students who meet specific requirements. It is hoped that this program will be continued so incoming students can take advantage of the program.

Looking at the gender breakdown for Environmental Studies for the last five years, it was 53% male and 47% female so gender diversity is fairly evenly distributed. However, the percentage of women has started to slightly decline so the department will need to focus on increasing female interest.

As the statistics show, the majority of the students enrolled in environmental studies classes are White, Non-Hispanic (64.7%), Hispanic (8.6%), and Asian (3.1%) (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**

<b>Ethnicity</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>	<b>2009-10</b>	<b>2010-11</b>
White, Non-Hispanic	263	281	376	424	466	481
Decline to state	85	70	75	58	72	57
Mixed Ethnicity	14	21	22	28	52	70
Mexican, Chicano, Mexican-American	19	28	23	32	46	49
Other Hispanic	9	7	11	18	15	15
South American	9	4	8	8	15	8
Filipino	12	7	10	8	5	7
Japanese	8	10	7	4	7	4
Black, African-American	5	5	7	9	7	7
Chinese	9	4	7	4	9	5
Vietnamese	4	7	3	5	7	5
Other Asian	1	5	7	5	4	9
Other Non-White	3	1	4	8	8	4
American Indian, Alaskan Native	1	3	6	5	4	5
Middle Eastern	5	7	8	1		1
Korean	5	1	1	3	4	7
Central American	3	2	3	5	1	3
Other Pacific Islander	1		4	2	1	2
Indian Sub-Continent			1	4		2
Pacific Islander; Hawaiian	3	1		1		1
Pacific Islander; Samoan	1	1				
Cambodian				1		1
Pacific Islander; Guamanian				1		
<b>Total Students</b>	<b>460</b>	<b>465</b>	<b>583</b>	<b>634</b>	<b>723</b>	<b>743</b>

Data Source: SOCCCD InForm July 2011

The department must address the large number of drops. It has been discussed that a survey be emailed to a student who drops to determine why the student dropped and if there was anything that could have been done to prevent it.

The department also has to address the 21% of the enrolled students that earned a D or lower. All environmental studies faculty are dedicated to the success of the students, but changes may be needed to increase student success.

Environmental Studies students participate in an active Environmental Awareness Club, which focuses on raising awareness on current environmental issues. The club has sponsored lectures, fieldtrips, beach clean-ups, e-waste recycling, and earth week activities. The club received a \$5000.00 donation in 2010 from Toshiba for Earth Week. The club also raises money for their annual \$500.00 scholarship, which is given to a Saddleback College environmental studies student.

## **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. The department regularly offers three 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. Because large lecture classrooms are limited on campus, the department has been limited on when courses can be offered.

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.

The supply room is not large to store instructional equipment and supplies. The division dean has allowed the department to store some supplies in another supply closet, but that space is limited since it is shared with other departments.

Another facility issue is the fact that the 20 hour laboratory technician does not have office space. Since 2006, the laboratory technician has used an area in the supply room as an office, but the supply room was not designed for that purpose. It is necessary to create an ergonomically correct office space.

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 the department will be moving down to the Village. If that occurs, then it will become necessary to make sure that the facilities down at the Village can meet the department needs. For example, the department requires a sink, locking storage cabinets not only for supplies and equipment like microscopes, but for hazardous chemicals, a refrigerator to store live animals, electrical outlets on the floor to power microscopes during lab, and lab tables (not desks).

The disruption to the TAS building could also cause damage to the California Native Garden which is located right next to the TAS building. If this occurred then money will be needed to restore the area.

### **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 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.

When the TAS building is renovated, it is imperative that the infrastructure is put into place to support a smart classroom.

### **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 California Native Garden which is funded by the Environmental Studies budget. There is simply not enough money in the budget to run classes and the California Native Garden the way it should. More money is desperately needed to maintain the garden, 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 California Native Garden.

#### **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 California Native Garden 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 is successful at holding meetings, lectures, debates, beach clean-ups, fieldtrips, and other activities despite their limited financial support from the Associated Student Government.

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 needs to be increased to full-time (40 hours). The Laboratory Technician position directly supports all aspects of the Environmental Studies Program and the student's success. Under the direction of the laboratory technician, students gain educational knowledge from volunteering in the California Native Garden about the importance of California native plants, specialized California ecosystems, and how to properly care for plants.

With the current Laboratory Technician's work load, there is insufficient time for any significant time to be dedicated to the California Native Garden except when there are assigned periods for student volunteers to perform activities in the area. These periods are limited to when the technician's time is available. During the Spring 2011 semester, there were approximately 25 hours set aside for the garden volunteers to perform the ongoing maintenance activities. This is insufficient to maintain an area that is approximately 2 acres.

The requested additional time would be used for area oversight, managing on-going activities, care and management of the native plants, performing general maintenance, addressing any safety issues or hazards, and improving the area for further instructional activities for the 2 department programs. These activities require the additional support requested throughout the year.

The additional hours are also necessary to meet the future demands of the programs. As the demand in environmental jobs increase, the department will need to offer additional classes. This will create increased need for more technician support time, which will be directed at instructional needs. The program simply cannot grow without additional classified support.

The program has been able to maintain a very high level of safety with no incidents in the last 9 years (amount of time I have been here) and this additional support will assist in the continuing of this incident free trend in the future years. With the growth of the program, there will be additional effort required to ensure that all aspects of the health and safety continue to be fully addressed. The department needs the increase in lab technician hours not only for lab safety but to also maintain a safe learning environment in the California Native Garden.

The additional labor cost and associated benefits is fair and very reasonable for the additional benefits that the Program will receive. This support will both allow the program at its current level to continue to be successful as well as provide the additional support needed for the future growth in this program area.

As the demand in environmental jobs increase, the department will need to offer additional classes. A reason for the growth driver in this program area is the current and future California job market will be experiencing both a 20% growth in new hires of personnel and a 20% growth in replacement of professionals that either leave this technical area or retire. Therefore, the department would like to add a second full-time faculty member to fulfill growth needs. This position request is in direct alignment with Saddleback College's Vision and Mission because it will support the program ensuring that the students who take the classes will be in the best position possible to achieve their academic learning and be able to attain degrees, certificates, or transfer to a 4-year institution.

The additional faculty member and classified staff hours are not only imperative to support the current program, but will be essential if a new water program is developed.

At Saddleback College, there is no alternative available for the students to receive scientific education within the field of Environmental Studies and Ecological Restoration. The classes associated with the programs are predominantly within the Environmental Studies department.

## **B. Instructional Needs**

The most crucial instructional need is an increase in the department's OSH budget. With the increase in demand for environmental studies classes, more OSH is needed to offer large lectures and/or more classes. Up until Fall 2011, the department has been allowed to slowly grow by adding an additional 2 sections and by adding large lecture. Unfortunately, there is a no growth moratorium so although there is demand, the department cannot meet it.

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 remains 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 California Native Garden. 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.

More money needs to be allocated to the California Native Garden to purchase more equipment, supplies, and plants, which are needed to sustain the garden. It is expected that additional resources will be needed to help reestablish the California Native Garden after the renovations of the TAS building.

## **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 desirable 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. Additionally, a small laboratory area where students could conduct longer-term study projects to support their learning

activities. Also, the environmental studies supply room was not designed to support a desk which is needed 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. The department needs to reach out to the community and promote the programs to increase interest in environmental studies classes. In order to do this, the department needs either faculty, staff, or students to attend local events, but money and time limit this from happening.

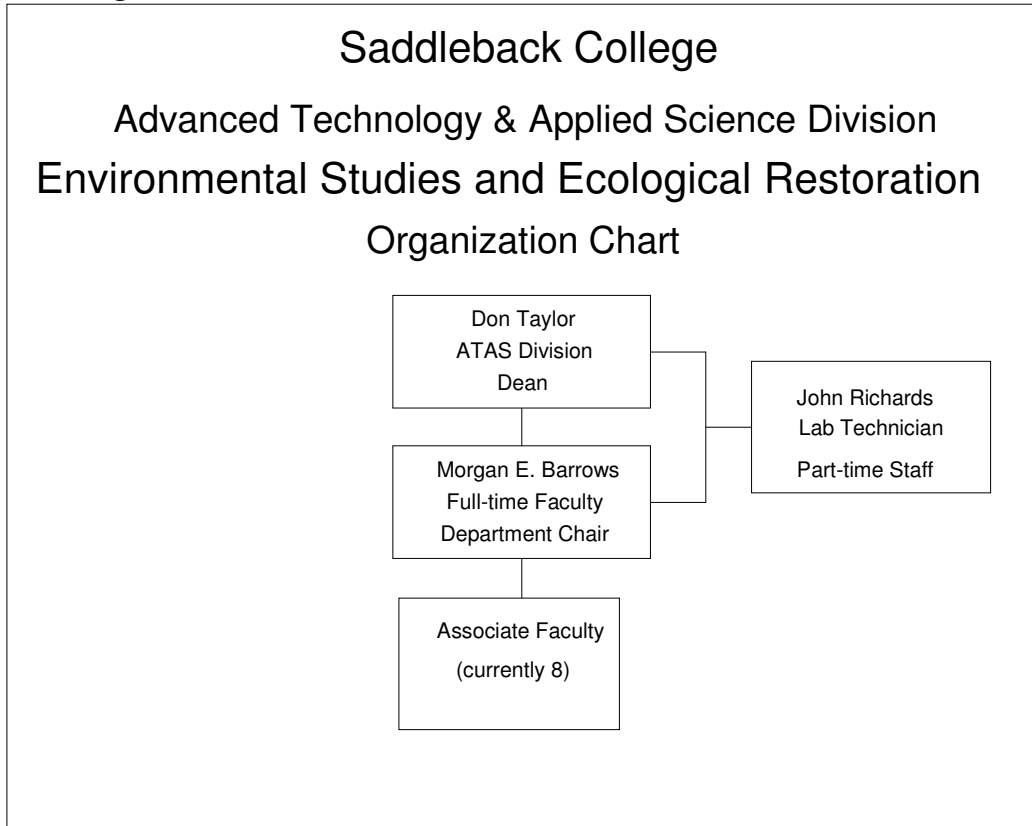
It is also important to have a website that is accessible to students. The department is currently working updating its website, but money is needed to buy the necessary program and to maintain the website.

Resources are also needed to purchase marketing materials that can be handed out at events. This includes brochures, flyers, and giveaways.

It would also be great to have a short video produced that advertises the department's offerings. This video could be handed out at events and posted on the department's website.

## Section IV: Appendices

### A. Program Organizational Chart



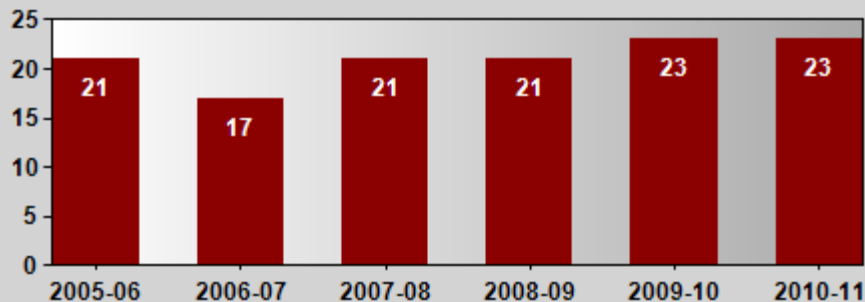
## B. Five-Year Program Staffing Profile

Environmental Studies Department						
Position	Staffing Levels in the Past 5 Years					% Change from Year 1 to Year 5
	2006-07	2007-08	2008-09	2009-010	2010-011	
Administration	1	1	1	1	1	0
Classified FT	0	0	0	0	0	0
Classified PT	1	1	1	1	1	0
Faculty FT	1	1	1	1	1	0
Faculty PT	3	5	4	9	6	50

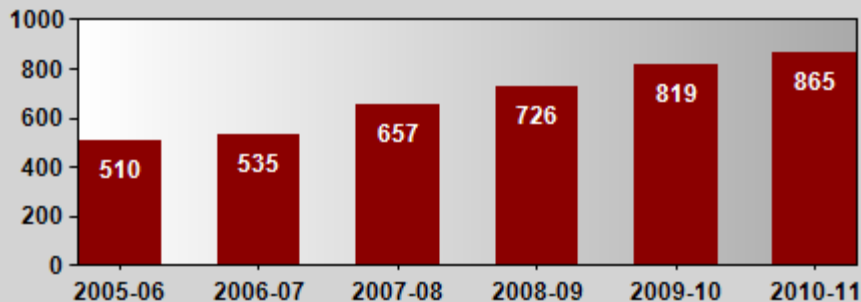
\*\*\*In Fall 2009, the full-time faculty member went out on maternity leave and her classes were covered by associate faculty member.

**Environmental Studies and Ecological Preservation  
Program Review Data Set  
July 2011**

Section Counts (D-G Tickets Excluded)



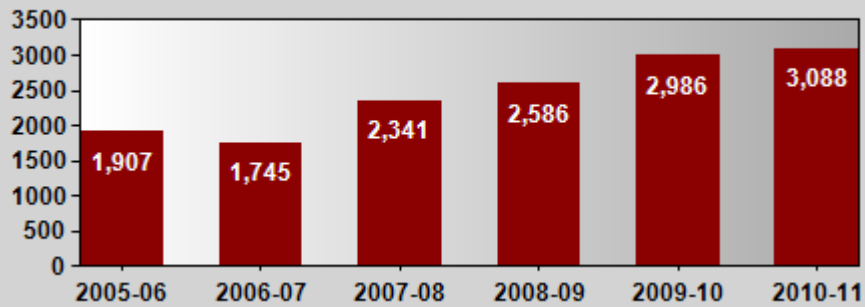
Enrollment Counts (Section Census)



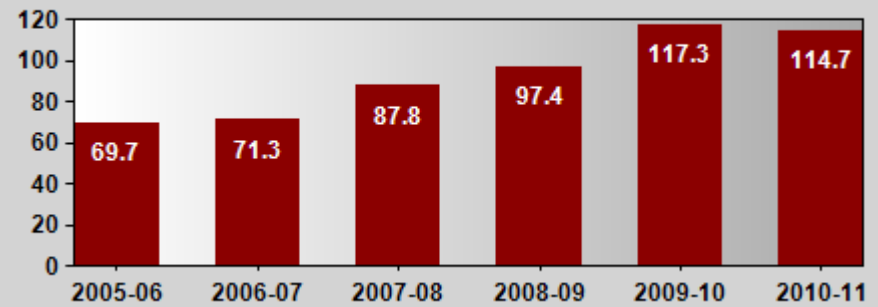
Course ID	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
CWE 168	1		2			
CWE 169	1					
CWE 180				1	1	2
ECOL 201	1				1	
ECOL 202	1				1	
ENV 1	7	7	6	7	7	7
ENV 18	4	4	5	6	6	6
ENV 19						
ENV 23						
ENV 24	3	2	2	2	2	2
ENV 25		1				
ENV 30	1		1	1		1
ENV 40						1
ENV 105			1	1	1	1
ENV 106			1		1	
ENV 120						
ENV 123	1					1
ENV 189		2	2	2	1	
ENV 200	1	1	1	1	1	1
ENV 202					1	1
<b>Total Sections</b>	21	17	21	21	23	23

Course ID	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
CWE 168			4			
CWE 169						
CWE 180				10	6	1
ECOL 201	12				24	
ECOL 202	11				16	
ENV 1	239	225	287	311	367	394
ENV 18	91	111	162	177	179	190
ENV 19		9		11	10	11
ENV 23	56	49	45	53	65	43
ENV 24	32	40	46	57	59	56
ENV 25		9				
ENV 30	15		18	27		30
ENV 40						29
ENV 105			9	11	10	19
ENV 106			10		25	
ENV 120	9	7	5			
ENV 123	14					28
ENV 189		58	43	43	9	
ENV 200	31	27	28	26	28	35
ENV 202					21	29
<b>Total Enrollments</b>	510	535	657	726	819	865

**Weekly Student Contact Hours (Section Census)**



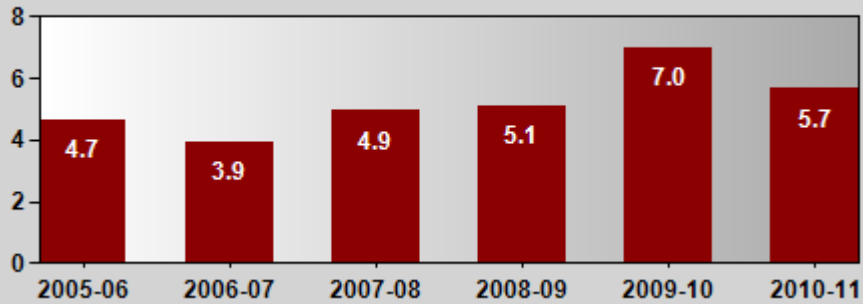
**FT Equivalent Students (Section Census)**



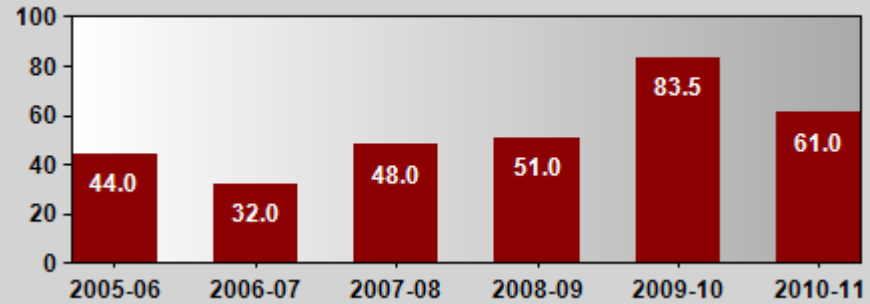
Course ID	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
CWE 168			23			
CWE 169						
CWE 180				45	27	5
ECOL 201	72				144	
ECOL 202	66				96	
ENV 1	717	675	861	933	1,101	1,182
ENV 18	654	666	972	1,062	1,074	1,140
ENV 19						
ENV 23						
ENV 24	215	200	230	285	295	280
ENV 25		27				
ENV 30	45		54	81		90
ENV 40						87
ENV 105			27	33	30	57
ENV 106			30		75	
ENV 120						
ENV 123	45					84
ENV 189		96	60	69	18	
ENV 200	93	81	84	78	84	105
ENV 202					42	58
<b>Total WSCH</b>	1,907	1,745	2,341	2,586	2,986	3,088

Course ID	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
CWE 168			.2			
CWE 169						
CWE 180				.3	.2	
ECOL 201	2				7.2	
ECOL 202	2				4.8	
ENV 1	24.8	23.4	30.1	33	38.4	42.2
ENV 18	18.8	22.9	33.3	36.4	36.8	39.1
ENV 19		1.8		2.2	2	2.2
ENV 23	11.4	10	9.2	10.8	13.3	8.9
ENV 24	3.8	5.9	6.2	6.9	7.1	7.2
ENV 25		.9				
ENV 30	1.5		1.8	2.7		3
ENV 40						3.1
ENV 105			.8	.9	.9	1.7
ENV 106			.9		2.7	
ENV 120	1.9	1.4	1			
ENV 123	1.4					2.8
ENV 189		3	2.1	2.2	.6	
ENV 200	2.1	1.9	2.2	1.9	2.1	2.4
ENV 202					1.3	2.1
<b>Total FTES</b>	69.7	71.3	87.8	97.4	117.3	114.7

FT Equivalent Faculty



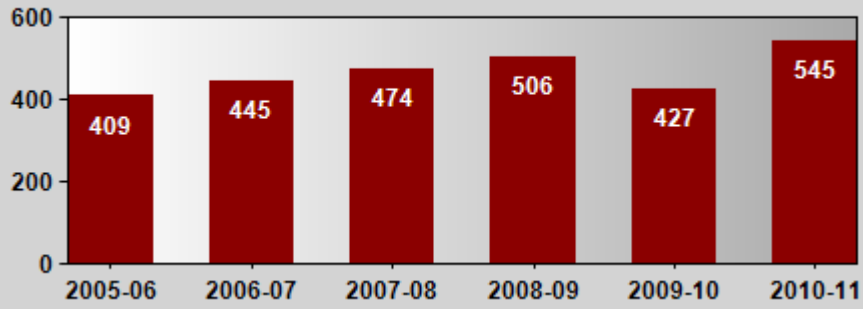
Non-Contract Hours (OSH)



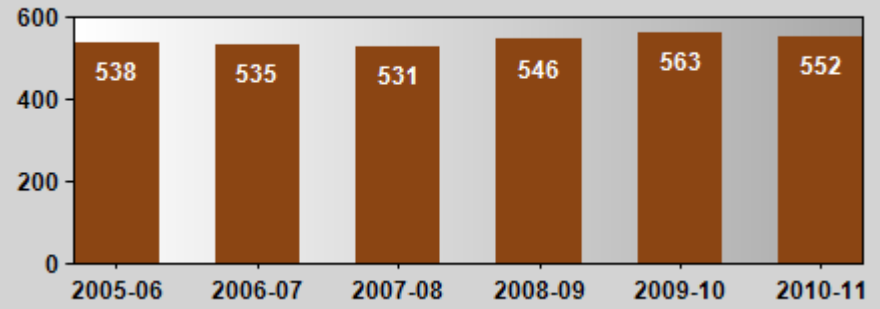
Course ID	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
CWE 168						
CWE 169						
CWE 180						
ECOL 201	.37				.37	
ECOL 202	.37				.37	
ENV 1	1.54	1.47	1.47	1.74	2.3	2.06
ENV 18	1.2	1.2	1.91	1.94	2.59	2.01
ENV 19						
ENV 23						
ENV 24	.6	.6	.6	.6	.6	.6
ENV 25		.2				
ENV 30	.2		.2	.2		.2
ENV 40						.2
ENV 105			.18	.18	.18	.18
ENV 106			.2		.2	
ENV 120						
ENV 123	.2					.1
ENV 189		.27	.2	.27	.07	
ENV 200	.18	.18	.18	.18	.18	.18
ENV 202					.13	.13
<b>Total FTEF</b>	4.66	3.92	4.94	5.11	6.99	5.66

Course ID	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
CWE 168						
CWE 169						
CWE 180						
ECOL 201	6				6	
ECOL 202	6				6	
ENV 1	5	4	10	11	23	16
ENV 18	14	14	19	20	30	24
ENV 19						
ENV 23						
ENV 24	10	10	10	10	10	10
ENV 25						
ENV 30				3		
ENV 40						
ENV 105			3	3	3	3
ENV 106						
ENV 120						
ENV 123						3
ENV 189		1	3	1	1	
ENV 200	3	3	3	3	3	3
ENV 202					2	2
<b>Total OSH</b>	44	32	48	51	83	61

Productivity (WSCH / FTEF)

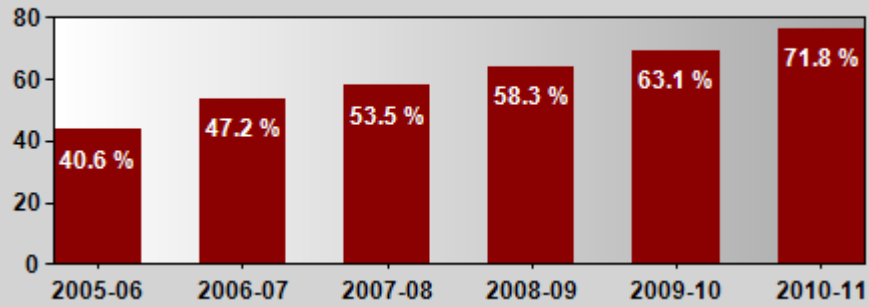


Productivity for Saddleback College

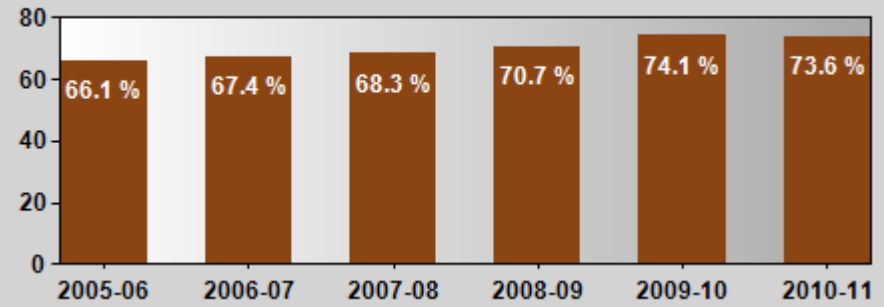


Course ID	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
CWE 168						
CWE 169						
CWE 180						
ECOL 201	195				389	
ECOL 202	178				259	
ENV 1	466	459	586	536	479	574
ENV 18	545	555	509	547	415	567
ENV 19						
ENV 23						
ENV 24	358	333	383	475	492	467
ENV 25		135				
ENV 30	225		270	405		450
ENV 40						435
ENV 105			150	183	167	317
ENV 106			150		375	
ENV 120						
ENV 123	225					840
ENV 189		356	300	256	257	
ENV 200	517	450	467	433	467	583
ENV 202					323	446
<b>Productivity</b>	409	445	474	506	427	545

Course Fill Rates at Section Census

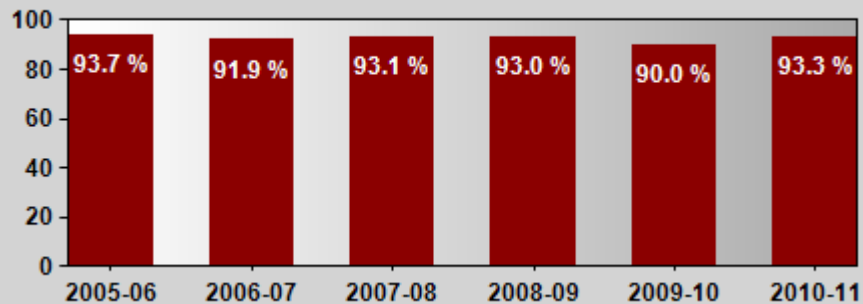


Course Fill Rates for Saddleback College

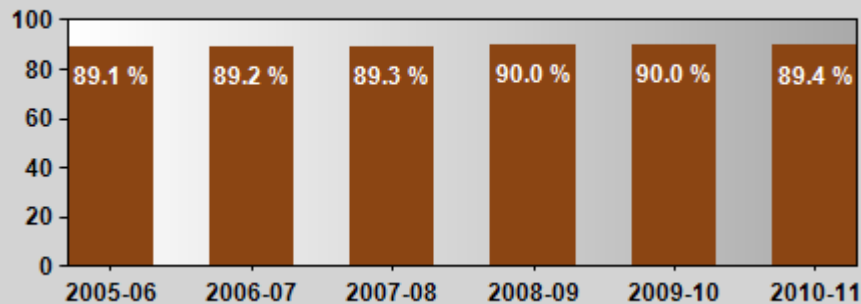


Course ID	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
CWE 168			4.4			
CWE 169						
CWE 180				22.2	13.3	1.1
ECOL 201	26.7				53.3	
ECOL 202	24.4				35.6	
ENV 1	75.9	71.4	106.3	98.7	116.5	125.1
ENV 18	50.6	61.7	72	65.6	66.3	70.4
ENV 19		20		24.4	22.2	24.4
ENV 23	31.1	27.2	25	29.4	48.1	47.8
ENV 24	23.7	44.4	51.1	63.3	65.6	62.2
ENV 25		20				
ENV 30	33.3		40	60		66.7
ENV 40						116
ENV 105			20	24.4	22.2	42.2
ENV 106			22.2		55.6	
ENV 120	20	15.6	11.1			
ENV 123	31.1					62.2
ENV 189		116	78.2	78.2	30	
ENV 200	68.9	60	62.2	57.8	62.2	77.8
ENV 202					84	116
<b>Course Fill Rates</b>	43.6	53.8	57.9	64.0	69.4	76.5

Retention Rates

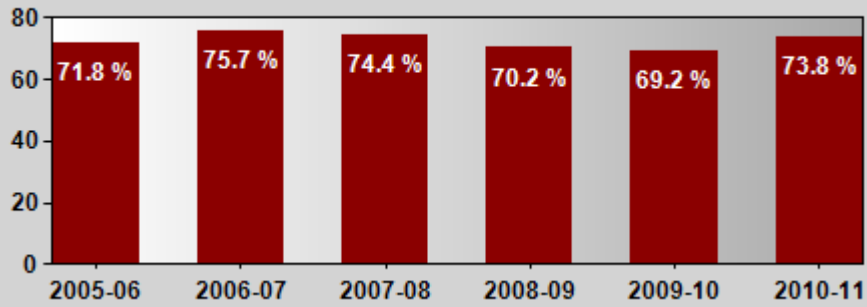


Retention Rates for Saddleback College

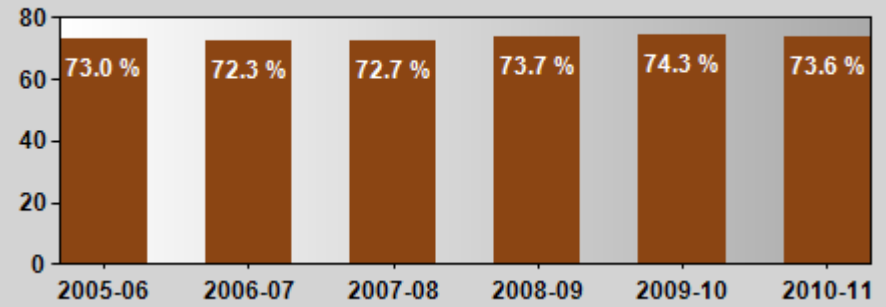


Course ID	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
CWE 168			100			
CWE 180				100	83.3	100
ECOL 201	100				90.5	
ECOL 202	100				100	
ENV 1	93	93.5	92.8	91.1	87.9	93.8
ENV 18	89.8	90.2	94.9	94.8	93.1	93.6
ENV 19		88.9		100	100	100
ENV 23	96.2	81	79.5	94.1	84.2	87.5
ENV 24	96.7	100	93.2	90	94.6	96.1
ENV 25		88.9				
ENV 30	93.8		93.8	88.9		86.7
ENV 40						96.4
ENV 105			100	100	75	100
ENV 106			88.9		95.7	
ENV 120	87.5	83.3	75			
ENV 123	92.3					80
ENV 189		91.2	97.6	97.6	85.7	
ENV 200	100	96.2	100	96	96.2	93.9
ENV 202					85	96.2
<b>Retention Rate</b>	93.7	91.9	93.1	93.0	90.0	93.3

**Success Rates**

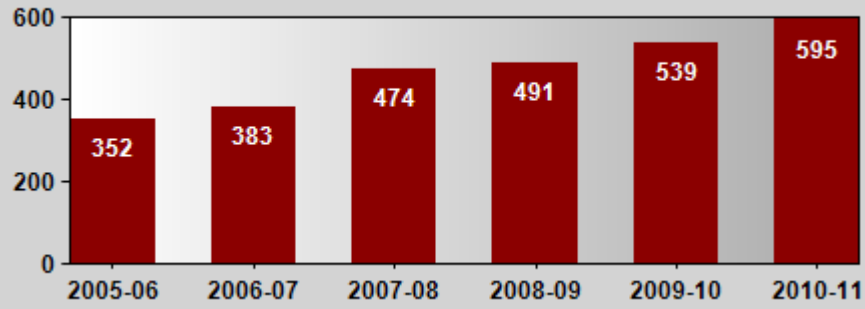


**Success Rates for Saddleback College**



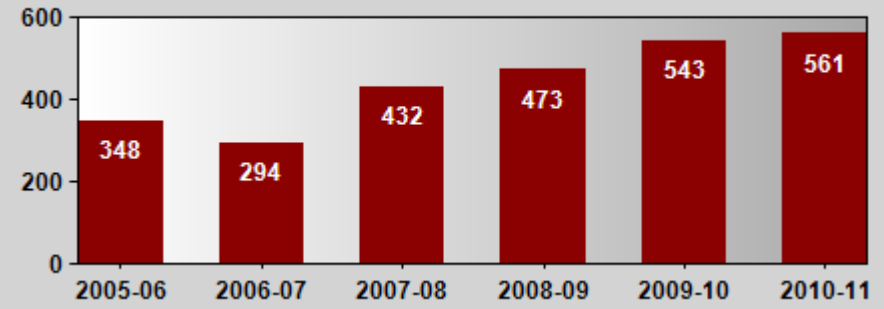
Course ID	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
CWE 168	0.0	0.0	60.0	0.0	0.0	0.0
CWE 180	0.0	0.0	0.0	100.0	66.7	100.0
ECOL 201	100.0	0.0	0.0	0.0	71.4	0.0
ECOL 202	100.0	0.0	0.0	0.0	100.0	0.0
ENV 1	69.0	71.8	71.2	54.3	57.9	66.4
ENV 18	69.3	72.5	74.5	82.0	79.8	78.6
ENV 19	0.0	22.2	0.0	100.0	70.0	80.0
ENV 23	49.1	71.4	61.4	74.5	61.4	65.0
ENV 24	83.3	92.3	81.8	76.0	83.9	84.3
ENV 25	0.0	88.9	0.0	0.0	0.0	0.0
ENV 30	81.3	0.0	62.5	77.8	0.0	73.3
ENV 40	0.0	0.0	0.0	0.0	0.0	78.6
ENV 105	0.0	0.0	100.0	100.0	75.0	100.0
ENV 106	0.0	0.0	88.9	0.0	78.3	0.0
ENV 120	75.0	83.3	50.0	0.0	0.0	0.0
ENV 123	84.6	0.0	0.0	0.0	0.0	72.0
ENV 189	0.0	86.0	90.2	88.1	71.4	0.0
ENV 200	96.7	92.3	90.0	88.0	96.2	90.9
ENV 202	0.0	0.0	0.0	0.0	85.0	88.5
<b>Success Rate</b>	71.8	75.7	74.4	70.2	69.2	73.8

Passing Grades (A,B,C,CR,P)



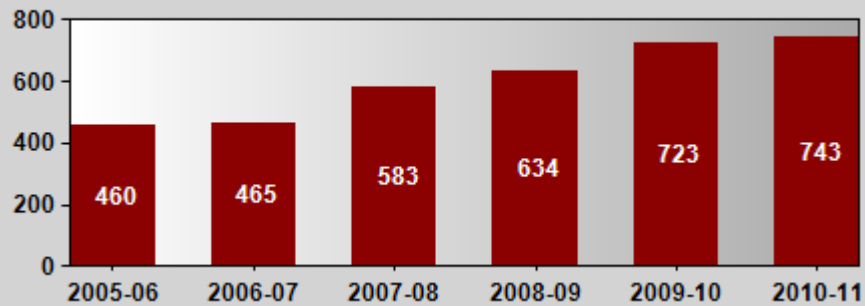
Passing Grades	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
A	153	178	191	261	271	259
B	125	116	166	147	153	186
C	70	81	108	80	108	143
CR	4	8	9	3		
P					7	7
<b>Total</b>	352	383	474	491	539	595

Other Grades

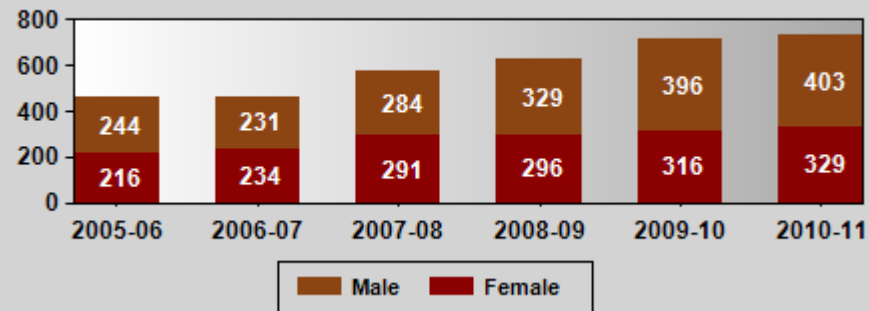


Other Grades	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Not Avail						32
D	30	27	37	47	41	47
DR	210	171	269	265	303	318
F	77	52	79	110	120	108
IC					1	
NC		3	3	2		
NP						2
W	31	41	44	49	78	54
<b>Total</b>	348	294	432	473	543	561

Student Counts (Section Census)



Student Counts (Decline to State Excluded)



Age Group	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
1. Below 18	22	15	9	30	14	13
2. 18-21	292	295	388	415	485	509
3. 22-29	73	94	107	115	137	128
4. 30-39	25	21	18	22	30	28
5. 40-49	22	18	32	31	33	25
6. 50-59	16	12	21	15	19	20
7. Over 59	10	10	8	6	5	20
<b>Total Students</b>	460	465	583	634	723	743

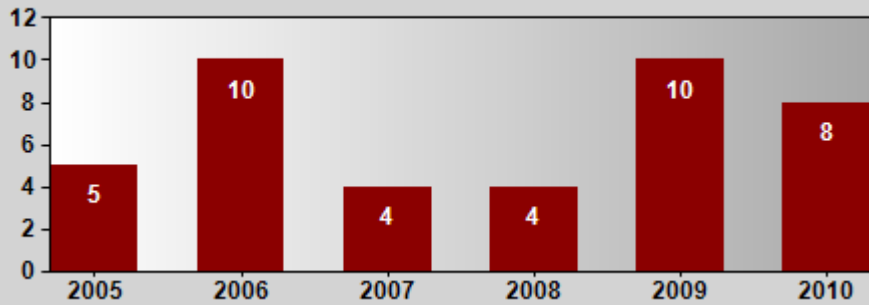
## Student Counts by Ethnicity

Ethnicity	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
White, Non-Hispanic	263	281	376	424	466	481
Decline to state	85	70	75	58	72	57
Mixed Ethnicity	14	21	22	28	52	70
Mexican, Chicano, Mexican-American	19	28	23	32	46	49
Other Hispanic	9	7	11	18	15	15
South American	9	4	8	8	15	8
Filipino	12	7	10	8	5	7
Japanese	8	10	7	4	7	4
Black, African-American	5	5	7	9	7	7
Chinese	9	4	7	4	9	5
Vietnamese	4	7	3	5	7	5
Other Asian	1	5	7	5	4	9
Other Non-White	3	1	4	8	8	4
American Indian, Alaskan Native	1	3	6	5	4	5
Middle Eastern	5	7	8	1		1
Korean	5	1	1	3	4	7
Central American	3	2	3	5	1	3
Other Pacific Islander	1		4	2	1	2
Indian Sub-Continent			1	4		2
Pacific Islander; Hawaiian	3	1		1		1
Pacific Islander; Samoan	1	1				
Cambodian				1		1
Pacific Islander; Guamanian				1		
<b>Total Students</b>	460	465	583	634	723	743

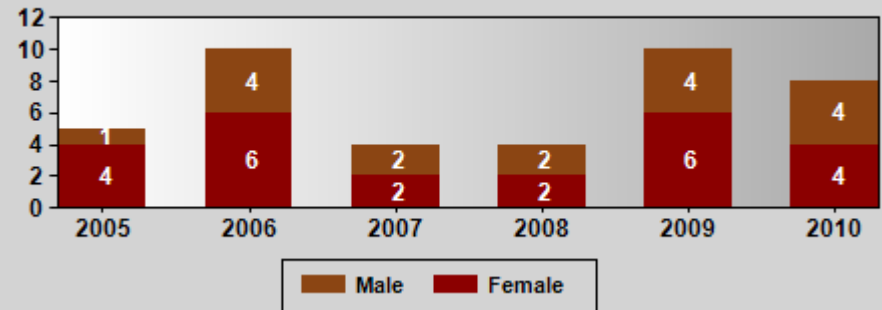
## Student Counts by Educational Goal

Educational Goal	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
Obtain a Bachelor's degree after Assoc.	162	197	255	292	332	343
Obtain a Bachelor's degree w/o Assoc.	63	61	87	86	119	104
Undecided on goal	54	53	66	98	89	86
Obtain a voc certificate and transfer	63	59	68	53	33	32
Personal Development	39	26	33	19	31	25
Prepare for a new career	26	20	19	18	20	24
Discover/develop career interests	25	21	17	22	22	16
4 yr col std taking crs to meet 4 yr requirements				13	28	75
Advance in current job/career	14	6	13	9	17	9
Obtain a non-voc degree w/o transfer	3	8	4	7	11	4
Improve basic skills		1	10	5	7	8
Obtain two-year voc. degree w/o transfer	4	4	5	2	5	4
Obtain a voc certificate w/o transfer	2	6		3	6	6
Complete credits for HS diploma or GED	4	1	4	5	2	4
Maintain license	1	1	2	2		2
To move from NCR coursework to CR coursework					1	1
		1				
<b>Total Students</b>	460	465	583	634	723	743

**Awards**



**Awards by Gender (Decline to State Excluded)**



Awards by Age Group	2005	2006	2007	2008	2009	2010
2.18-21	1	2	1		4	1
3.22-29	3	3	1	3	4	1
4.30-39		1	2		1	1
5.40-49	1	2			1	3
6.50-59		1		1		2
7.Over 59		1				
<b>Total Awards</b>	5	10	4	4	10	8

Awards by Major	2005	2006	2007	2008	2009	2010
ECOLOGICAL RESTORATION	2	2		1	2	2
ENVIRONMENTAL STUDIES	3	8	4	3	8	6
<b>Total Awards</b>	5	10	4	4	10	8

Award Type	2005	2006	2007	2008	2009	2010
Associate in Arts	3	8	4	3	8	6
Associate in Science	1					
Certificate of Achievement	1	2		1	2	2
<b>Total Awards</b>	5	10	4	4	10	8

**Staffing Counts (Instructors Assigned to D-G Tickets Only Have Been Excluded)**

<b>Employee Type</b>		<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>	<b>2009-10</b>	<b>2010-11</b>
<b>PART-TIME</b>	Apkarian, Alice		1				
	Bloom, Pete	1	1	1	1		
	Brown, Elisabeth	1	1	1	1	1	1
	Bryant, Peter						1
	Clark, Karen					1	
	Cohen, Laura					1	1
	Gerrard, Amanda		1		1	1	1
	Kent, Douglas					1	
	Martinez, Beth			1		1	
	McAdam, Jennifer			1			
	Richards, John			1	1	1	1
	Roley, William	1					
	Schneider, Jim	1		1	1	1	
	Sharma, Upasna	1					
	Siren, Sarah	1		1			
	Tidwell, Bill	1					
	West, Janelle					1	1
	Williams, Bethany					1	
	Zeleski, Cathleen		1				
Zemba, Dick	1	1	1	1	1	1	
<b>Total</b>		8	6	8	6	11	7
<b>Total</b>		8	6	8	6	11	7