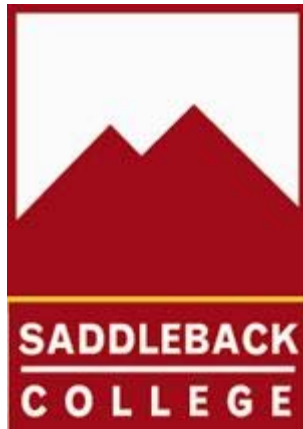


Saddleback College Program Review for Phlebotomy



Submitted Spring 2008

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Program Review Team Members and Approvals

Program Review Team Chair:

Kay Stevens RN, MA

Program Review Team Members:

Kay Stevens

Scott Tharpe

Approvals:

Division Dean

Program Review Chair

Academic Senate President

Vice President of Instruction

Program Review Checklist

Date Completed	Action
10/06	Contact Program Review Chair for orientation
10/06	Form Program Review Team
10/06	Gather documents (Org Chart/Staffing Profile/SLO Assessment Forms/Data Sets)
10/06	Solicit input from faculty and students
4/07	Determine if additional research is needed
4/07	Contact College Research Analyst if necessary
2/08	Write Program Review report
4/08	Submit report to Dean and Program Review Chair for approval
	Report submitted to Academic Senate for approval
	Report submitted to Office of Instruction for approval
	Report submitted to College President and the Office of Institutional Effectiveness
	Report posted to the IE web site
	Presentation to the Planning and Budget Committee

Section I: Program Overview

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

1. To prepare students to fulfill the role at the entry level as laboratory phlebotomists. This typically results in employment in hospitals, but may also include employment in private labs, outpatient labs, public health facilities, satellite lab drawing stations, physician offices and clinics, and other areas where phlebotomy skills are needed.
2. To provide a learning environment that promotes teamwork, mutual respect, professional and personal growth, and support and encouragement by the faculty and staff.
3. To promote understanding and respect for the cultural diversity of patients and the workforce in the laboratory and the healthcare community in general.
4. To provide students with the didactic, psychomotor, and skills needed to work successfully as phlebotomists.
5. To provide successful clinical learning environments and experiences in the community during the externship phase of the program.
6. To sustain and grow enrollment and retention in phlebotomy.
7. To prepare students to achieve a passing score on the required national certification examination.
8. To conduct curriculum review and student learning outcomes to support successful college and program accreditations.

B. Historical Background and Unique Characteristics of the Program

Phlebotomy is part of the Health Sciences, Human Services and Emeritus Institute Division. It was first approved and established in 2002 to meet the needs of the State of California's newly enacted requirement for phlebotomy certification, and has been offered continuously since that time. Two courses are offered in phlebotomy; HSC 240 and HSC 241. HSC 240 is a theory and skills course in phlebotomy procedures. HSC 241 provides didactic instruction only. The curriculum meets the state's requirement for didactic instruction and covers current standards of care for phlebotomy.

There is a one semester requirement for students to complete phlebotomy. Students without previous phlebotomy experience enroll in HSC 240 and CWE 168. They must obtain professional liability insurance and meet certain health requirements and background clearance. Students with previous phlebotomy experience enroll in HSC 241, an 8-week certification course that meets the state requirement for didactic instruction. Phlebotomy offers a Certificate of Completion from the Health Science Division. For HSC 240, the certificate is offered after successful completion of the didactic, skills evaluation and externship portions of the course, sufficient to meet the state requirement for certification. For HSC 241, the certificate is offered after successful completion of didactic training. A Certificate of Completion allows the student to sit for the national certification examination. This examination is given at the final class meeting. The phlebotomy instructor serves as proctor for the exam. The national certification examination is provided

by the National Center for Competency Testing, (NCCT). Students who successfully complete phlebotomy and pass the NCCT examination are eligible to apply to the State of California for Certified Phlebotomist Technician 1 (CPT1) level certification.

In order to fulfill the state requirement for experience prior to certification, students in HSC 240 will concurrently enroll in CWE 168. Phlebotomy operates in partnership with local externship facilities that provide practical training sufficient to meet the state's requirement for CPT1 experience. Students are placed at an externship facility after they have demonstrated competency in basic phlebotomy skills. Students must maintain a "C" or better before they are permitted to enter the externship program. Student's progress during the externship is monitored by communication between the Phlebotomy instructor and the externship site supervisor.

Course HSC 240 provides phlebotomy skills training on campus in the phlebotomy skills lab. Hands on instruction in venipuncture technique includes: safety, equipment, proper venipuncture and dermal puncture techniques. Students develop skills by practicing on manikin arms and then on each other. This allows students the opportunity to practice and ultimately demonstrate successful mastery of skills. This hands-on instruction serves to prepare students for externship training and continues through the semester. A skills evaluation practical examination for each student is conducted by the instructor. Students must achieve a passing score to successfully complete the course.

Students enrolled in HSC 241 already have "on the job" experience sufficient to meet the state requirement for CPT1 certification. The NCCT examination is given at the completion of the course, and students must submit their own documentation of experience to the state for certification.

There have been no changes to phlebotomy since inception in 2002.

C. Progress Since the Last Program Review

This is the first program review to be conducted for the Phlebotomy Program.

D. Program Strengths, Opportunities for Growth and Challenges

1. Strengths:
 - a. Phlebotomy has maintained a high enrollment level even though phlebotomy programs are offered through several private schools. Student demand for HSC 240 continues to exceed classroom capacity.
 - b. The instructor who teaches both courses and coordinates the externship training is a licensed Clinical Laboratory Scientist (CLS) with 25 years experience and holds a Bachelor's degree in Biology. The instructor has maintained collegial relationships with site supervisors at several of our current community facilities through past professional interaction and present communication through phlebotomy externship.
 - c. Faculty in the program is experienced in the health care industry as well as in teaching.
 - d. The Department Chair has supervised the program since its inception in 2002.
 - e. The Division Dean is highly visible and supportive of phlebotomy, regularly attending department meetings and academic advisory committee meetings.
 - f. Phlebotomy faculty, Chair, and Dean meet yearly with its Advisory Committee who regularly offers recommendation and support.
 - g. There is frequent feedback that phlebotomy is highly recognized within the clinical laboratory community as producing phlebotomists that are well prepared with the necessary skills and attitudes to enter the job marketplace.
 - h. Students can enter the program in the fall, spring, and summer semesters. Externship requiring 120 hours is completed concurrent with the class.
 - i. Upon successful completion of the coursework, externship, and passing of the national certification examination, the students must apply to the state for Certified Phlebotomy Technician 1 (CPT) certification. Once a state certificate is received, they can enter the workforce.
 - j. For their national certification exam. Saddleback students have a 96% pass rate
 - k. A skills evaluation practical examination for each student is conducted individually by the instructor. Students must achieve a passing score to successfully complete the course. A clinical skills specialist has been hired to assist in the skills training. Students have achieved a 100% pass rate for skills.
 - l. An annual Phlebotomy review meeting is conducted with the Dean, Department Chair, Faculty and the participating clinical site coordinators. The purpose is to review the clinical training requirements, address any concerns and discuss possible improvements.

2. Opportunities
 - a. Employment opportunities for phlebotomists in local clinical laboratories continues to grow. The demand for Saddleback graduates will remain high.
 - b. The communities surrounding Saddleback College continue to grow. Healthcare facilities are added which increases the demand for qualified phlebotomists and an opportunity to sustain and grow student enrollment.
 - c. Continue to participate in activities that bring students to the campus such as career fairs, family nights and attending off campus events will help promote careers in allied health. Present Phlebotomy as an entry level position with opportunities to move up the career ladder in the clinical laboratory sciences.
 - d. Continue to updated textbooks and other educational materials and lab supplies that meet the current standards of the industry.
 - e. Participate in grant opportunities to increase funding for student success activities.
 - f. Offer one-day refresher classes to meet the state's continuing education requirements for phlebotomists.

3. Challenges
 - a. Meeting current demand for HSC 240 enrollment is a big challenge. Offering two HSC 240 classes would increase capacity and relieve the high demand for the class. There is high level of student frustration with enrollment in this course. Many students are turned away each semester. The class fills up quickly with students capable of early enrollment. New students rarely have an opportunity to enroll.
 - b. Capacity in the class is limited by the externship sites available for placement and by the capacity of the skills lab. In order to offer two classes of HSC 240 we would need to expand our current list of partners for externship placement opportunities.
 - c. The success of Phlebotomy is dependent on the support from the local laboratory community. These partner facilities have on occasion canceled their participation for a semester. This creates a significant burden on the faculty to pursue additional training sites. Increasing the number of partner facilities would alleviate this issue.
 - d. Many of the students in the program do not speak English as their primary language, which presents a challenge to the student and faculty alike. Bilingual phlebotomists are highly desired in the workforce and are more likely to gain employment.
 - e. Students need greater access to computers. There are no computers for student use in the classroom or laboratory. The computer lab, located at the other end of the hallway is used primarily by the nursing students and is not convenient for or accessible by the phlebotomy students.
 - f. The students in phlebotomy are being taught by a part time instructor. To meet the demand for enrollment in phlebotomy, a full time instructor should be in place to ensure the continued success and growth of the program.
 - g. To further develop Blackboard and other electronic capabilities. This would strengthen and enhance the effectiveness of classroom time, which in turn could increase practical skills lab time to enhance patient care techniques prior to and during externship.

Section II: Review Report

A. Faculty and Staff

1. Staffing structure for Phlebotomy consists of one Department Chair and one associate faculty instructor. One skills specialist is employed to assist with skills development training.

B. Curriculum and Instruction

1. Successful completion of phlebotomy prepares students for state certification and entry into the work force.
2. Credit hours achieved in phlebotomy may be utilized as elective courses for students applying for an Associate of Science or Associate of Arts Degree.
3. Program curriculum goes through state review process every two years. Curriculum adjustments are made as necessary based on changing technology, and industry and advisory committee input. Faculty attend department meetings to review and evaluate curriculum and attend yearly advisory committee meetings to hear members recommendations.
4. The courses, HSC 240 and HSC 241, present theoretical principles of anatomy, physiology, infection control, collection equipment, patient preparation, venipuncture and dermal puncture for the pediatric, adult, and geriatric populations. In addition, principles of specimen identification, specimen processing, non-blood specimens, quality, legal issues, and interpersonal relations are presented.
5. The most up-to-date textbooks are used in the classroom. Each course provides a syllabus and additional reference materials are available in the Division Library area.
6. Written examinations given in both courses are analyzed and revised each semester. Practical examinations are given in HSC 240.
7. Phlebotomy practice hours occur in HSC 240. Prior to the practical exam, student's skills and competency in performance of procedures are evaluated by the instructor individually and in groups.
8. A variety of teaching modalities are used including lecture (with and without PowerPoint), demonstration and return demonstration, working with partners, and utilization of audio-visual materials. Critical thinking is emphasized throughout the program.
9. Students must maintain a "C" or better in HSC 240 in order to be placed at a clinical training site for externship.
10. During the externship students have a training plan and learning objectives. They are evaluated on attitude, behavior, and performance by the site supervisor at the site where they train.
11. A full assessment of Student Learning Outcomes was done in the Spring of 2007. It was useful and rewarding to analyze the areas of student success in regard to pass rates, competency testing, and externship evaluations.

12. Saddleback College Phlebotomy enjoys an excellent reputation in the clinical laboratory community. Laboratories are happy to take our students into their facilities and provide the training sites for their externships. We frequently hear that laboratories will only take students as externs who have been trained at Saddleback College and not elsewhere. Graduates are often hired at the sites of their externship and are often preferred for hiring opportunities in the community. Our curriculum is strong and we are producing very well prepared students.
13. Table 1 on page 11 lists the courses offered in phlebotomy.
14. Contents of the courses are evaluated every two years and on an as-need basis. Most revisions reflect State Phlebotomy Training Program requirements.
15. Didactic, psychomotor, and affective goals and objectives are listed in the course curriculum and textbook. Additionally, the instructor lists learning objectives and goals in the course syllabus that is handed out on the first class meeting. The instructor uses various methods throughout the course to assess students and assure that the course objectives are being met. The methods currently being used in assessing the programs didactic and affective objectives are in the form of written examinations. This is achieved through six written examinations and one final comprehensive written examination. In HSC 240, practical skills assessments are completed during a skills testing evaluation, using a skills testing score sheet. Examinations are completed with the students using the ParScore Scantron. Written examinations are analyzed and revised each semester.
16. Students must have an overall 70% "C" or better classroom average through all seven written examinations and successful completion of all practical skills to be eligible for the course completion certificate.
17. The following are recommendations to improve phlebotomy:
 - i. Add an additional HSC 240 class to help meet course demand.
 - ii. Develop and implement the use of textbook resources and other online electronic capabilities to improve student study resources and improve usage of instructional classroom time.
 - iii. Funding instructor development for workshops/conferences specific for phlebotomy so that the courses will be maintained current with other state and/or national phlebotomy educational programs.

Table 1

Phlebotomy courses offered at Saddleback College.

Course	Course Outline Update Date	Degree Support and Transferability
Phlebotomy 240	Fall 2006	-AA/AS -CSU transferable area C2 -UC transferable -IGETC area 6A -Provider approved by the California Board of Registered Nursing
Phlebotomy 241	Fall 2006	-AA/AS -CSU transferable area C2 -UC transferable -Provider approved by the California Board of Registered Nursing
CWE 168	Fall 2006	-AA/AS -CSU transferable area C2 -UC transferable -Provider approved by the California Board of Registered Nursing

C. Student Success

1. Based on eleven semesters surveyed from Spring 2002 through Spring of 2007, phlebotomy has a success rate of 78.6% and a retention rate of 92.2%. With the continued interest in phlebotomy as an entry level career opportunity in the clinical laboratory as well as an excellent health science course for pre-nursing students, enrollment in HSC 240 should continue to be at maximum.
2. HSC 241 is designed as a certification course for experienced phlebotomists. California required certification for all phlebotomists in 2003. The majority of phlebotomists currently practicing have completed the required coursework. HSC 241 will continue to see average enrollment.
3. Identified positive influences on student success within the program include:
 - i. Faculty expertise in the health care industry. The current phlebotomy instructor is employed in the clinical laboratory health care industry.
 - ii. Faculty is highly dedicated to and involved in both the academic and health care professions.
 - iii. Faculty is available to students in person, via email, and by telephone. Students are able to access faculty prior to and following class time. The Department Chair meets with students as requested or required.
4. Graduates of the program demonstrate attitudes and values required to obtain employment. This was demonstrated through survey results indicating that 98% received a score of satisfactory or above on the externship evaluation that rated these factors.
5. Of the students sitting for the NCCT certification examination, 96% successfully passed the examination.

6. Students are counseled by faculty when their grades are low. They are routinely referred to Student Services when it appears appropriate.
7. The majority of students are female 81% with 19% male.
8. The majority of students (35.9%) state their educational goal is to acquire job skills and the program definitely helps them meet that goal through preparation for direct entry into the work force.
9. Areas for growth potential include:
 - i. The development of student study guides and other resources that the students can utilize for additional help as needed for the preparation of final, and certifying examinations.
 - ii. The development of a Phlebotomy Course Handbook that is distributed and reviewed the first day of class so that students know exactly what the course objectives, expectations, grading, and clinical expectations are and other guidelines to successfully complete the HSC 240 course specifically.
10. Several weaknesses can be attributed to students not succeeding in phlebotomy. They include the following:
 - i. Courses is offered at night. Many students work during the daytime making completion of CWE 169 challenging. Some partnership sites offer limited days and hours for clinical training.
 - ii. Location of some clinical training sites presents logistical difficulty due to distance from the college.
 - iii. Class concludes late at night, most training sites start clinical training early in the morning.
 - iv. Course curriculum is demanding. Students with minimal health science, biology, or anatomy and physiology exposure often struggle.
 - v. Part-time instructor does not have posted office hours available for student consult. Student assistance and support takes place during or after class time, over the phone or by email.

D. Facilities, Technical Infrastructure, and Resources

1. The size, type and quality of the programs' current physical space is adequate for affecting the program's ability to fulfill its mission and service its current course offerings in a positive way.
2. Audio-visual equipment is present in the teaching classroom as well as the skills lab. A dedicated computer is available in both rooms.
3. The skills lab has been enhanced with additional cabinetry and equipment. New practice training arms, a centrifuge and microscope assist students with practical skills development.
4. Audio-visual resources, in the form of DVDs, are available and are utilized to enhance student learning. Additional resources such as review manuals and comparison text books and the availability of the computer lab would afford students the ability to review material individually at their own pace.

E. Service, Community Outreach, and Economic Development (optional)

Section III: Needs Assessment

A. Human Resource Needs

1. Resources are adequate for the proper implementation of the phlebotomy training, however, there is no allowance for growth. Current demand HSC 240 exceeds capacity. Hiring of full time faculty is required to meet course demand. Two ticket numbers of HSC 240 should be offered in the Fall and Spring semesters.

B. Instructional Needs

1. Classroom capacity of 30 students exceeds the skills lab physical size capacity. This crowded condition in the skills lab presents a challenging environment for one-on-one skills lab training for faculty and a skills specialist. Reducing class cap by creating two ticket numbers would reduce the faculty/student ratio.

C. Research Needs

1. There is a need to determine if Phlebotomy graduates are successful in obtaining employment which utilizes the skills obtained. This may be achieved through student surveys to be conducted one year after completion of the coursework and after state certification. This would require access to accurate contact information for these alumni.
2. The success of phlebotomy is dependent on the support from the local laboratory community. The partner facilities have on occasion canceled their participation for a semester. Soliciting additional partner externship sites should be pursued. There are many hospital facilities in Orange County that we do not have a partnership with.

D. Technical, Equipment and Other Resource Needs

1. Audio-visual equipment is present in the teaching classroom as well as the skills lab. A dedicated computer is available for faculty in both rooms.
2. The skills lab has been enhanced with additional cabinetry and equipment. New practice training arms, a centrifuge and microscope assist students with practical skills development. No additional skills development items are needed at this time.
3. Audio-visual resources, in the form of DVDs, are available and are utilized to enhance student learning. Additional resources such as review manuals and comparison text books and the availability of the computer lab would afford students the ability to review material individually at their own pace.

E. Facilities Needs

1. There are no additional facility needs at this time. As Phlebotomy grows additional facility needs may arise.

F. Marketing and Outreach Needs

1. Phlebotomy has been marketed on a very limited basis, through MySite and Class Schedule listings as well as a one page handout available at campus wide events. The college has hired a Director of Public Information and Marketing. The program needs to explore additional opportunities for the promotion of our classes.

Section IV: Appendices

A. Program Organizational Chart

Health Science, Human Services & Emeritus Institute

<u>Health Sciences</u>	<u>Human Services</u>	<u>Emeritus Institute</u>
Nursing Paramedics Emergency Medical Technician Medical Assistant Phlebotomy ASL/Interpreting	Human Services Generalist Alcohol & Drug Studies Family Services Corrections & Criminal Justice Eating Disorders Victim Services	PE Liberal & Fine Arts and Humanities

B. Five-Year Program Staffing Profile

Position	Staffing Levels for Each of the Previous Five Years						% Change From Year 1 to Year 6
	2002	2003	2004	2005	2006	2007	
Administration	0	0	0	0	0	0	0
Bargaining Classified Staff FT	0	0	0	0	0	0	0
Bargaining Classified Staff PT	0	0	0	0	1	1	100
Non-bargaining Classified Staff FT	0	0	0	0	0	0	0
Non-bargaining Classified Staff PT	0	0	0	0	0	0	0
Student Workers	0	0	0	0	0	0	0
Clinical Skills Specialist	0	0	0	0	0	1	100
Faculty FT	0	0	0	0	0	0	0
Faculty PT	1	1	1	1	1	1	0

C. SLO Assessment Forms

**Instructional Program
Phlebotomy
June 2007**

I	II	III	IV	V
Expanded Statement of Institutional Purpose	Program Student Learning Outcomes	Assessment Method and Criteria for Success	Assessment Results	Use of Results
<p>Saddleback College Goal: To provide a comprehensive, broad range of high-quality courses and programs to enable students to pursue their educational objectives and career goals (Goal 2). Vocational Certificates of Achievement and Occupational Skills awards are designed to prepare students to qualify for positions in business and industry, technical fields, and selected professions (Vocational and Occupational Education)</p> <p>Phlebotomy Program Mission: The mission of the phlebotomy program is to prepare students for successful employment in phlebotomy.</p> <p>Saddleback College Goal: To provide a comprehensive, broad range of high-quality courses and programs to enable students to pursue their educational objectives and career goals (Goal 2). Vocational Certificates of Achievement and Occupational Skills awards are designed to prepare students to qualify for positions in business and industry,</p>	<p>1. Phlebotomy students will demonstrate technical proficiency in the skills lab.</p> <p>2. Students completing the phlebotomy program will be qualified for a state certification in California.</p>	<p>1a. On the first attempt, 85% of students will pass skills examinations given at completion of each clinical course.</p> <p>1b. 100% of the students who pass the skills exam will achieve a minimum passing rating on each competency area.</p> <p>2. 80% of students completing HSC 240 and HSC 241 will achieve a score of 70% or higher on the NCCT National phlebotomy exam.</p>	<p>1a. Fall 2006 97% Spring 2007 97%</p> <p>1b. Fall 2006 100% Spring 2007 100%</p> <p>2. NCCT Pass Rates Fall 2006 98% Spring 2007 (awaiting)</p> <p>The national minimum acceptable NCCT pass rate is 70%.</p>	<p>Continue to monitor skills examination competency annually. Consider comparing first-time pass rates to total pass rates.</p> <p>Continue to monitor competency areas.</p> <p>Continue to monitor NCCT pass rate annually. Consider comparing first-time pass rates to total pass rates.</p>

I	II	III	IV	V
Expanded Statement of Institutional Purpose	Program Student Learning Outcomes	Assessment Method and Criteria for Success	Assessment Results	Use of Results
<p>technical fields, and selected professions (Vocational and Occupational Education)</p> <p>Phlebotomy Program Mission: The mission of the phlebotomy program is to prepare students for successful employment in phlebotomy.</p> <p>Saddleback College Goal: To provide a comprehensive, broad range of high-quality courses and programs to enable students to pursue their educational objectives and career goals (Goal 2). Vocational Certificates of Achievement and Occupational Skills awards are designed to prepare students to qualify for positions in business and industry, technical fields, and selected professions (Vocational and Occupational Education)</p> <p>Phlebotomy Program Mission: The mission of the phlebotomy program is to prepare students for successful employment in phlebotomy.</p>	<p>3. Graduates of the Phlebotomy Program will attain attitudes and values necessary for employment in Phlebotomy or other healthcare related professions.</p>	<p>3. 85% of completing students will receive a satisfactory or above rating on their externship evaluations in areas assessing employability skills including dependability, grooming, confidentiality, and attendance.</p>	<p>3. Fall 2006 98% Spring 2007 97</p>	<p>Continue to monitor externship evaluations in areas assessing employability skills including dependability, grooming, confidentiality, and attendance.</p>

D. Data Sets

Phlebotomy 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. Phlebotomy Students' Duplicated Headcount**
 - a. Gender**
 - b. Zip Code**
 - c. Age Groups**
 - d. Ethnicity**
 - e. Educational Goal**
- 6. Awarded Certificates**

**Data Source: SOCCCD Management Information System (MIS) Data Warehouse March 2008
Prepared by Shouka Torabi, Research and Planning Specialist, Saddleback College**

Section Count

Phlebotomy Courses Course and Section Count by Term and Year

	Fall					Spring					
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006	2007
	Section Count	Section Count	Section Count	Section Count	Section Count	Section Count	Section Count	Section Count	Section Count	Section Count	Section Count
CWE 168	1	1	1	1	1	1	1	1	1	1	1
CWE 169	1	1	1	1	1	2	1	1	1	1	1
HSC 240	1	1	1	1	1	1	1	1	1	1	1
HSC 241	0	0	0	1	1	0	0	0	0	1	1
Total	3	3	3	4	4	4	3	3	3	4	4

Census Headcount

Phlebotomy Courses C1 Headcount by Course/Term/Year

	Fall					Spring					
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006	2007
	C1 Headcount	C1 Headcount	C1 Headcount	C1 Headcount	C1 Headcount	C1 Headcount	C1 Headcount	C1 Headcount	C1 Headcount	C1 Headcount	C1 Headcount
CWE 168	0	0	0	0	0	0	0	0	0	0	0
CWE 169	0	0	0	0	0	0	0	0	0	0	0
HSC 240	34	35	38	35	30	26	27	34	38	38	40
HSC 241	.	.	.	31	20	18	22
Total	34	35	38	66	50	26	27	34	38	56	62

End of Term Count

Phlebotomy Courses End of Term Enrollment by Course/Term/Year

	Fall					Spring					
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006	2007
	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
CWE 168	13	12	18	13	27	7	12	15	20	18	24
CWE 169	23	25	19	22	2	14	19	23	22	21	14
HSC 240	34	35	38	35	30	26	27	34	38	38	40
HSC 241	0	0	0	36	21	0	0	0	0	19	23
Total	70	72	75	106	80	47	58	72	80	96	101

Summary of All Courses by Grade/Success/Retention

Phlebotomy Courses Summary of All Courses by Grade/Success/Retention

		Grades								success	retention	
		A	B	C	CR	F	I	W	XX	Total		
		Count	Count	Count	Count	Count	Count	Count	Count	Count	Percent	Percent
2002	Spring	20	6	1	0	0	8	5	7	47	57.4%	89.4%
	Fall	34	19	6	2	2	0	1	6	70	87.1%	98.6%
2003	Spring	24	10	3	0	6	6	6	3	58	63.8%	89.7%
	Fall	40	12	4	2	5	0	4	5	72	80.6%	94.4%
2004	Spring	47	14	4	0	0	1	3	3	72	90.3%	95.8%
	Fall	47	8	1	0	0	7	12	0	75	74.7%	84.0%
2005	Spring	46	23	2	1	2	0	1	5	80	90.0%	98.8%
	Fall	52	28	10	0	6	0	7	3	106	84.9%	93.4%
2006	Spring	43	29	8	0	10	0	2	4	96	83.3%	97.9%
	Fall	47	18	4	0	0	2	5	4	80	86.3%	93.8%
2007	Spring	49	14	4	0	9	0	22	3	101	66.3%	78.2%

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).

Summary of CWE 168 & CWE 169 by Grade/Success/Retention

Phlebotomy Courses Courses by Grade/Success/Retention

			Grades							success	retention		
			A	B	C	CR	F	I	W	XX			
			Count	Count	Count	Count	Count	Count	Count	Count	Percent	Percent	
CWE 168	2002	Spring	4	0	0	0	0	0	1	2	57.14	85.71	
		Fall	6	3	0	0	0	0	0	4	69.23	100.00	
	2003	Spring	4	2	0	0	0	2	2	2	50.00	83.33	
		Fall	5	1	0	0	1	0	2	3	50.00	83.33	
	2004	Spring	11	0	0	0	0	1	0	3	73.33	100.00	
		Fall	12	1	0	0	0	1	4	0	72.22	77.78	
	2005	Spring	14	3	1	1	0	0	0	1	95.00	100.00	
		Fall	11	0	1	0	0	0	1	0	92.31	92.31	
	2006	Spring	15	1	0	0	1	0	0	1	88.89	100.00	
		Fall	25	0	0	0	0	1	0	1	92.59	100.00	
	2007	Spring	19	0	0	0	1	0	4	0	79.17	83.33	
	CWE 169	2002	Spring	8	1	0	0	0	4	1	0	64.29	92.86
			Fall	11	6	3	1	1	0	0	1	91.30	100.00
		2003	Spring	10	2	1	0	3	1	1	1	68.42	94.74
Fall			19	3	1	0	1	0	0	1	92.00	100.00	
2004		Spring	17	4	0	0	0	0	2	0	91.30	91.30	
		Fall	12	3	0	0	0	3	1	0	78.95	94.74	
2005		Spring	12	7	0	0	1	0	0	2	86.36	100.00	
		Fall	17	2	0	0	1	0	1	1	86.36	95.45	
2006		Spring	13	3	0	0	3	0	1	1	76.19	95.24	
		Fall	2	0	0	0	0	0	0	0	100.00	100.00	
2007		Spring	7	0	0	0	1	0	6	0	50.00	57.14	

CAPTION= 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).

Summary of HSC 240 & HSC 241 by Grade/Success/Retention

Phlebotomy Courses Courses by Grade/Success/Retention

			Grades							success	retention		
			A	B	C	CR	F	I	W	XX	Percent	Percent	
			Count	Count	Count	Count	Count	Count	Count	Count			
HSC 240	2002	Spring	8	5	1	0	0	4	3	5	53.85	88.46	
		Fall	17	10	3	1	1	0	1	1	91.18	97.06	
	2003	Spring	10	6	2	0	3	3	3	0	66.67	88.89	
		Fall	16	8	3	2	3	0	2	1	82.86	94.29	
	2004	Spring	19	10	4	0	0	0	1	0	97.06	97.06	
		Fall	23	4	1	0	0	3	7	0	73.68	81.58	
	2005	Spring	20	13	1	0	1	0	1	2	89.47	97.37	
		Fall	17	10	4	0	1	0	2	1	88.57	94.29	
	2006	Spring	4	21	6	0	4	0	1	2	81.58	97.37	
		Fall	14	11	2	0	0	1	0	2	90.00	100.00	
	2007	Spring	18	7	1	0	1	0	12	1	65.00	70.00	
	HSC 241	2005	Fall	7	16	5	0	4	0	3	1	77.78	91.67
		2006	Spring	11	4	2	0	2	0	0	0	89.47	100.00
			Fall	6	7	2	0	0	0	5	1	71.43	76.19
2007		Spring	5	7	3	0	6	0	0	2	65.22	100.00	

CAPTION= 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).

Gender by Year/Term

Phlebotomy Courses
Gender by Year/Term
Duplicated Headcount

		F		M		X		Total	
		Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
2002	Spring	40	85.1%	7	14.9%	0	.0%	47	100.0%
	Fall	48	68.6%	22	31.4%	0	.0%	70	100.0%
2003	Spring	54	93.1%	4	6.9%	0	.0%	58	100.0%
	Fall	40	55.6%	32	44.4%	0	.0%	72	100.0%
2004	Spring	58	80.6%	14	19.4%	0	.0%	72	100.0%
	Fall	50	66.7%	25	33.3%	0	.0%	75	100.0%
2005	Spring	63	78.8%	17	21.3%	0	.0%	80	100.0%
	Fall	77	72.6%	29	27.4%	0	.0%	106	100.0%
2006	Spring	75	78.1%	19	19.8%	2	2.1%	96	100.0%
	Fall	65	81.3%	15	18.8%	0	.0%	80	100.0%
2007	Spring	74	73.3%	26	25.7%	1	1.0%	101	100.0%

Courses by Zip Code

Phlebotomy Courses by Zip Code Duplicated Headcount

		Saddleback		Irvine		Out of District		Total	
		Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
2002	Spring	32	68.1%	5	10.6%	10	21.3%	47	100.0%
	Fall	24	34.3%	9	12.9%	37	52.9%	70	100.0%
2003	Spring	21	36.2%	12	20.7%	25	43.1%	58	100.0%
	Fall	31	43.1%	16	22.2%	25	34.7%	72	100.0%
2004	Spring	36	50.0%	10	13.9%	26	36.1%	72	100.0%
	Fall	37	49.3%	11	14.7%	27	36.0%	75	100.0%
2005	Spring	32	40.0%	12	15.0%	36	45.0%	80	100.0%
	Fall	65	61.3%	3	2.8%	38	35.8%	106	100.0%
2006	Spring	44	45.8%	17	17.7%	35	36.5%	96	100.0%
	Fall	59	73.8%	2	2.5%	19	23.8%	80	100.0%
2007	Spring	51	50.5%	11	10.9%	39	38.6%	101	100.0%

Age Group Distribution by Year/Term

Phlebotomy Courses Age Group Distribution by Year/Term Duplicated Headcount

		Age Groups															
		Below 17		18-21		22-25		26-35		36-50		51-65		Over 65		Total	
		Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
2002	Spring	0	.0%	12	25.5%	4	8.5%	14	29.8%	9	19.1%	8	17.0%	0	.0%	47	100.0%
	Fall	2	2.9%	3	4.3%	21	30.0%	22	31.4%	22	31.4%	0	.0%	0	.0%	70	100.0%
2003	Spring	0	.0%	17	29.3%	11	19.0%	13	22.4%	11	19.0%	6	10.3%	0	.0%	58	100.0%
	Fall	0	.0%	13	18.1%	4	5.6%	19	26.4%	26	36.1%	6	8.3%	4	5.6%	72	100.0%
2004	Spring	0	.0%	16	22.2%	12	16.7%	20	27.8%	16	22.2%	8	11.1%	0	.0%	72	100.0%
	Fall	0	.0%	10	13.3%	18	24.0%	30	40.0%	10	13.3%	7	9.3%	0	.0%	75	100.0%
2005	Spring	0	.0%	14	17.5%	23	28.8%	21	26.3%	20	25.0%	2	2.5%	0	.0%	80	100.0%
	Fall	0	.0%	17	16.0%	24	22.6%	27	25.5%	28	26.4%	10	9.4%	0	.0%	106	100.0%
2006	Spring	0	.0%	15	15.6%	33	34.4%	21	21.9%	24	25.0%	3	3.1%	0	.0%	96	100.0%
	Fall	0	.0%	17	21.3%	22	27.5%	15	18.8%	22	27.5%	4	5.0%	0	.0%	80	100.0%
2007	Spring	0	.0%	24	23.8%	23	22.8%	25	24.8%	21	20.8%	7	6.9%	1	1.0%	101	100.0%

Ethnicity by Year/Term

**Phlebotomy 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 N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
2002	Spring	7	14.9%	4	8.5%	15	31.9%	0	.0%	0	.0%	0	.0%	21	44.7%	0	.0%	47	100.0%
	Fall	16	22.9%	8	11.4%	14	20.0%	0	.0%	3	4.3%	0	.0%	22	31.4%	7	10.0%	70	100.0%
2003	Spring	5	8.6%	0	.0%	17	29.3%	2	3.4%	2	3.4%	2	3.4%	18	31.0%	12	20.7%	58	100.0%
	Fall	12	16.7%	2	2.8%	17	23.6%	2	2.8%	4	5.6%	2	2.8%	27	37.5%	6	8.3%	72	100.0%
2004	Spring	17	23.6%	0	.0%	10	13.9%	0	.0%	0	.0%	0	.0%	43	59.7%	2	2.8%	72	100.0%
	Fall	26	34.7%	2	2.7%	4	5.3%	0	.0%	0	.0%	2	2.7%	34	45.3%	7	9.3%	75	100.0%
2005	Spring	23	28.8%	4	5.0%	8	10.0%	0	.0%	0	.0%	0	.0%	41	51.3%	4	5.0%	80	100.0%
	Fall	11	10.4%	5	4.7%	25	23.6%	2	1.9%	0	.0%	0	.0%	58	54.7%	5	4.7%	106	100.0%
2006	Spring	28	29.2%	6	6.3%	16	16.7%	2	2.1%	1	1.0%	0	.0%	34	35.4%	9	9.4%	96	100.0%
	Fall	17	21.3%	3	3.8%	17	21.3%	0	.0%	0	.0%	0	.0%	39	48.8%	4	5.0%	80	100.0%
2007	Spring	14	13.9%	9	8.9%	37	36.6%	0	.0%	5	5.0%	0	.0%	29	28.7%	7	6.9%	101	100.0%

Educational Goals by Year/Term

Phlebotomy Courses Educational Goals by Year/Term Duplicated Headcount

	2002				2003				2004				2005				2006				2007	
	Spring		Fall		Spring		Fall		Spring		Fall		Spring		Fall		Spring		Fall		Spring	
	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
AA/AS and transfer	8	17.0%	8	11.4%	7	12.1%	9	12.5%	27	37.5%	12	16.0%	15	18.8%	17	16.0%	19	19.8%	8	10.0%	25	24.8%
Transfer w/o AA/AS	0	.0%	0	.0%	2	3.4%	0	.0%	4	5.6%	0	.0%	1	1.3%	3	2.8%	6	6.3%	2	2.5%	0	.0%
AA/AS w/o transfer	0	.0%	2	2.9%	0	.0%	0	.0%	0	.0%	1	1.3%	0	.0%	1	.9%	2	2.1%	0	.0%	4	4.0%
2-yr Voc. w/o transfer	0	.0%	0	.0%	3	5.2%	4	5.6%	4	5.6%	4	5.3%	2	2.5%	1	.9%	4	4.2%	6	7.5%	5	5.0%
Voc. certif. w/o transfe	6	12.8%	10	14.3%	10	17.2%	7	9.7%	0	.0%	12	16.0%	13	16.3%	7	6.6%	7	7.3%	10	12.5%	8	7.9%
Discover interests	0	.0%	0	.0%	0	.0%	0	.0%	4	5.6%	4	5.3%	1	1.3%	0	.0%	5	5.2%	2	2.5%	5	5.0%
Acquire job skills	17	36.2%	27	38.6%	21	36.2%	27	37.5%	21	29.2%	31	41.3%	29	36.3%	34	32.1%	26	27.1%	24	30.0%	11	10.9%
Update job skills	3	6.4%	14	20.0%	8	13.8%	17	23.6%	10	13.9%	9	12.0%	9	11.3%	22	20.8%	14	14.6%	6	7.5%	10	9.9%
Maintain cert. or lisc.	2	4.3%	2	2.9%	0	.0%	0	.0%	2	2.8%	2	2.7%	0	.0%	8	7.5%	1	1.0%	2	2.5%	8	7.9%
Ed. development	4	8.5%	2	2.9%	2	3.4%	4	5.6%	0	.0%	0	.0%	4	5.0%	7	6.6%	4	4.2%	8	10.0%	9	8.9%
Basic Skills	0	.0%	2	2.9%	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	2	2.1%	5	6.3%	4	4.0%
HS or GED	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	0	.0%	2	2.1%	0	.0%	2	2.0%
Undecided	7	14.9%	3	4.3%	5	8.6%	4	5.6%	0	.0%	0	.0%	6	7.5%	6	5.7%	4	4.2%	7	8.8%	10	9.9%
Total	47	100.0%	70	100.0%	58	100.0%	72	100.0%	72	100.0%	75	100.0%	80	100.0%	106	100.0%	96	100.0%	80	100.0%	101	100.0%

E. Others