SANTA MONICA COLLEGE
ACADEMIC
SENATE
1900 Pico Boulevard
Santa Monica, CA 90405
310.434.4611

CURRICULUM COMMITTEE ❙ AGENDA

Wednesday, March 16, 2011 ❙ 3:00 p.m.
Loft Conference Room – Drescher Hall 300E

Members:

Guido Davis Del Piccolo, *Chair*	Maral Hyeler	Eric Minzenberg	Jeffery Shimizu
Georgia Lorenz, *Vice Chair*	Tiffany Inabu	Estela Narrie	Edie Spain
Brenda Benson	Randal Lawson	James Pacchioli	Marcel Strickler
Ellen Cutler	Helen LeDonne	Patricia Ramos	Gary Taka
Diane Gross	Emily Lodmer	Deborah Schwyter	Esau Tovar
Aileen Huang	Walter Meyer		Carol Womack

Interested Parties:

Maria Bonin	Katharine Muller	Mona Martin	Wendy Parise
Jonathan Cohanne	Kiersten Elliott	Mitra Moassessi	Eleanor Singleton
Mary Colavito		Chris Young	Julie Yarrish

Ex-Officio Members:

Eric Oifer

A G E N D A

(Items for action are listed alphabetically; items for information are listed numerically)

I. Call to order

II. Public Comments*

III. Approval of Minutes……..……..3

- APPENDIX A (SB1440 Update)……...….7

IV. Chair's report

V. New Courses – credit:

a. Medical Laboratory Technician 3: Blood Banking and Immunology……..13
b. Medical Laboratory Technician 4: Clinical Chemistry……...25

VI. Degrees

c. Associate of Science, Recycling Resource Management……...36

**Five minutes is allotted to any member of the public who wishes to address the Curriculum Committee on a specific agenda item, for general public comments, or non-agenda items.*

VII. Certificates

d. Recycling and Resource Management Level II……...36
e. Recycling and Resource Management Level I……...52

VIII. Old Business

f. SB 1440 update……...53

IX. New Business

g. AR 4350: Graduation requirements- Student Affairs Committee edits……...54
h. Global Citizenship AA requirement

X. Adjournment

Please advise Guido Davis Del Piccolo (x. 3561), Georgia Lorenz (x. 4277) or Grace Smith (x. 4454) if you are unable to attend this meeting.

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CURRICULUM COMMITTEE ❙ MINUTES

Wednesday, March 2, 2011 ❙ 3:00 p.m.
Loft Conference Room – Drescher Hall 300E

Members Present:

Guido Davis Del Piccolo, *Chair*	Maral Hyeler	Eric Minzenberg	Jeffery Shimizu
Georgia Lorenz, *Vice Chair*	Tiffany Inabu	Estela Narrie	Edie Spain
Brenda Benson	Randal Lawson	James Pacchioli	Gary Taka
Diane Gross	Emily Lodmer	Deborah Schwyter	Esau Tovar
Aileen Huang	Walter Meyer		Carol Womack

Members Absent:

Ellen Cutler	Helen LeDonne	Patricia Ramos

Others Present:

Fariba Bolandhemat	Frank Dawson	Josh Kanin	Alex Schwartz
Salvador Carrasco	Ron Furuyama	Erica LeBlanc	Kathryn St. Amant
Anna Collier	Ken Geddes	Eric Oifer	

MINUTES

I. Approval of Minutes:
The minutes of December 1, 2010 were unanimously approved.

II. Chair's report:

- The Chair welcomed James Pacchioli, English Department representative, who is replacing Judith Remmes; new member Tiffany Inabu, Associated Students President and noted that Christina Preciado, Psychology/Social Sciences representative had stepped down. He thanked Ms. Remmes and Ms. Preciado for their time of service on the Curriculum Committee.
- The Academic Senate passed the following on December 7, 2010:
  - ***New Courses:*** Philosophy 20/Environmental Studies 20, Recycling and Resource Management 1, Recycling and Resource Management 2, Recycling and Resource Management 3, Recycling and Resource Management 4, Entertainment Technology 25C
  - ***Global Citizenship:*** Philosophy 20/Environmental Studies 20, Recycling and Resource Management 1
  - ***Distance Education:*** Graphic Design 65
  - ***Associate Degrees:*** Entertainment Technology: Animation, Associate of Science Degree in Mathematics
  - ***Certificates:*** Entertainment Technology: Animation, Mathematics, Entertainment Technology – 2D Animation Department Certificate, 3D Animation Department Certificate, 3D Modeling Department Certificate, 3D Rendering Department Certificate

III. Program Review:

- **a.** Counseling 12H: Career Planning
- **b.** Counseling 16: Job Success Skills
- **c.** Counseling 90 A,B,C,D: General Internship

IV. New Courses – credit:

a. Broadcasting 20A: Introduction to Writing and Producing Short-Form Media – presented by Frank Dawson.

Maral Hyeler moved to approve Broadcasting 20A with the following changes on the course outline:

- Re-wording of "IVb. Arranged Hours Instructional Activities" – to be submitted by Frank Dawson
- Deletion of "Department Certificate: Broadcast Programming and Production; Broadcast Sales and Management" on Form 2.

Motion made by: Maral Hyeler **Seconded by:** Edie Spain
The motion passed unanimously

b. CIS 65: Flash Catalyst – presented by Kathryn St. Amant.

Approval of prerequisite for CIS 65

Motion made by: James Pacchioli **Seconded by:** Estela Narrie
The motion passed unanimously.

Approval of course

Motion made by: Diane Gross **Seconded by:** Tiffany Inabu
The motion passed unanimously.

c. CS 86: Android Development – presented by Ken Geddes.

Approval of prerequisite for CS 86

Motion made by: Emily Lodmer **Seconded by:** James Pacchioli
The motion passed unanimously.

Approval of course

Randal Lawson moved to approve CS 86 with the following changes:

- Add CS 86 as an option to *CS 84, Programming with XML* on all certificates and degrees (to be submitted by Fariba Bolandhemat)

Motion made by: Randal Lawson **Seconded by:** Deborah Schwyter
The motion passed unanimously.

d. Film Studies 33: Directing the Short Film – presented by Salvador Carrasco.

Approval of prerequisites for Film 33

Motion made by: Maral Hyeler **Seconded by:** Brenda Benson
The motion passed unanimously.

Approval of course

Motion made by: Tiffany Inabu **Seconded by:** Brenda Benson
The motion passed unanimously.

e. PRO CR 7: Coaching of Soccer – presented by Anna Collier.

Carol Womack moved to approve PRO CR 7 with the following changes:

- Include the descriptive word "Project:" before "Coaches' tactical toolbox.." under *Methods of Evaluation* (Form 1, Course Outline of record)

Motion made by: Carol Womack **Seconded by:** Estela Narrie
The motion passed unanimously.

f. PRO CR 8: Coaching of Basketball – presented by Anna Collier.

Carol Womack moved to approve PRO CR 8 with the following changes:

- Include the descriptive word "Project:" before "Coaches' tactical toolbox.." under *Methods of Evaluation* (Form 1, Course Outline of record)

Motion made by: Carol Womack **Seconded by:** Estela Narrie
The motion passed unanimously.

g. PRO CR 9: Coaching of Volleyball – presented by Anna Collier.

NOTE: PRO CR 7, 8 and 9 are options for the Athletic Coaching Certificate.

Carol Womack moved to approve PRO CR 9 with the following changes:

- Include the descriptive word "Project:" before "Coaches' tactical toolbox.." under *Methods of Evaluation* (Form 1, Course Outline of record)

Motion made by: Carol Womack **Seconded by:** Estela Narrie
The motion passed unanimously.

h. Psych 40/Environmental Studies 40: Environmental Psychology (Reinstated) - presented by Alex Schwartz.

NOTE: This course is listed as an elective for the Recycling and Resource Management Level II certificate – to be offered beginning Fall 2011.

Walter Meyer moved to approve Psych 40/Environmental Studies 40 with the following changes:

- Correct punctuation and grammatical errors under Form 1, Section VII such as adding question marks at the end of sentences in no.2

Motion made by: Walter Meyer **Seconded by:** Tiffany Inabu
The motion passed unanimously.

V. Distance Education

a. CIS 65: Flash Catalyst – presented by Kathryn St. Amant.

Motion made by: Esau Tovar **Seconded by:** Diane Gross
The motion passed unanimously.

VI. New Courses – non-credit: presented by Erica LeBlanc.

a. Health E21:Yoga Health and Safety Principles and Practices for Older Adults

b. Health E22: Chi Gong Health and Safety Principles and Practices for Older Adults
c. Health E23: T'ai Chi Health and Safety Principles and Practices for Older Adults
d. Health E24: Physical Fitness Principles and Practices for Older Adults
e. Health E25: Strength and Stamina Training Principles and Practices for Older Adults

Approval of Health E21, E22, E23, E24, E25

Motion made by: Jeff Shimizu **Seconded by:** Carol Womack
The motion passed unanimously.

VII. Global Citizenship

a. Psych 40/Environmental Studies 40: Environmental Psychology (Reinstated) – presented by Alex Schwartz.

Motion made by: Randal Lawson **Seconded by:** Carol Womack
The motion passed unanimously.

VIII. Certificates

a. Athletic Coaching Certificate – presented by Anna Collier.
Randal Lawson moved to approve the Athletic Coaching Certificate with the following changes:

- Fitness Electives (4 units selected from 4 different sports/areas with at least one unit at the "Advanced" level)

Motion made by: Randal Lawson **Seconded by:** Estela Narrie
The motion passed unanimously.

IX. Old Business

a. SB 1440 Update – presented by the *Chair*. See Appendix-A (page 7).
The Curriculum Committee, by consensus, encourages and empowers the SMC Academic Senate to join with our colleagues (particularly in Region 7, but also throughout the state) to modify the existing SB1440 degrees and/or develop alternative TMCs to the existing, and to help ensure that future TMCs are more beneficial to students.

X. Adjournment

The meeting was adjourned at 5:25 p.m.

The next meeting of the Curriculum Committee will be held on Wednesday, March 16 at 3:00 p.m. at Drescher Hall 300E- the Loft.

Respectfully submitted,

Georgia Lorenz, *Vice Chair*
gs

APPENDIX A

Approved TMC in Sociology

		Course Title	Units
Category A			
REQUIRED CORE:			
	SOCIOL	Introduction	**3**
List A			
SELECT 2 courses from the following:			
	SOCIOL	Social Problems	3
	SOCIOL	Research Methods	3
	MATH	Statistics	3-4
		Total List A Units:	**6-7**
List B			
SELECT 2 courses from the following:			
	SOCIOL OR MATH	Any "List A" course not used above	3-4
	SOCIOL	Marriage and Family	3
	SOCIOL	Introduction to Gender	3
	SOCIOL	Introduction to Race & Ethnicity	3
	SOCIOL	Introduction to Crime	3
	SOCIOL OR PSYCH	Social Psychology (may be cross-listed as SOCI)	3
	SOCIOL	Any Sociology course that has lower division articulation at its respective CCC and not listed here	3
		Total List B Units:	**6-7**
List C			
Select 1 of:			
		Any courses not selected above, any CSU transferable Sociology courses, and/or other courses (in or outside the discipline) that are articulated as lower division for the Sociology major (e.g. Cultural Anthropology, General Psychology) or Introductory Social Science course as defined by the respective CCC	**3**
		Total Minimum Units:	**18**

SOCIOLOGY TMC

Assumption: Student places into English 1 (23%) & Math 54 (29%)

course	units toward AA	CSU GE	IGETC Area	AA degree	TMC
Sociology 1	3	D0	4	3	core
Math 54	4	B4	2	4	list a
Sociology 2	3	D0	4	3	list a
Sociology 4	3	D0	4	3	list b
Sociology 34	3	D0	4	3	list b
Political Science 1	3	D8	4	3	list c
examples of courses which satisfy the particular CSU GE Area					
Speech 1	3	A1	1C		
English 1	3	A2	1A		
English 2	3	A3	1B		
Geography 1	3	B1	5P		
Biology 3	4	B2	5B		
Music 33	3	C art	3A		
Film 2	3	C art	3H		
History 12	3	C hum	3H		
Counseling 20	3	E			
TOTALS	47			19	

units available for "academic exploration" and/or "major change" before exceeding 60 AA degree applicable units	13

Assumption: Student places into English 21A (47%) & Math 18/20 (11%)

English 21A	0	N/A	N/A	
English 21B	3	N/A	N/A	
Math 18 or 20	3/5	N/A	N/A	
TOTALS	53/55			19

units available for "academic exploration" and/or "major change" before exceeding 60 AA degree applicable units	5/7

SUMMARY for CSUGE:

Assuming the student comes to SMC eligible for English 1, and Math 54, then the student has 13 units of elective courses to play with/explore to reach 60.

If the student comes to SMC eligible for English 21A and Math 18/20, the student has only 5-7 units of elective courses to play with/explore.

Regardless of the preparation, the student completing the TMC in Sociology is REQUIRED to take 6 units of "excess" in CSU GE Area D.

Current General Common Major requirements for Sociology at 23 CSUs v3

	Intro. to Soc	Social Problems	Research Methods	Other Sociology Course (s)	Stats	English Comp. 2	Total # of Courses Required	Total # of SOCIOL (Area D) Courses Required
DH	X				X		2	1
LA	X				X	X	3	1
Northridge	X		X		X		3	2
SF	Rec	Rec				X	1	0
Bakersfield	X				X		3	1
East Bay	X				X		2	1
Fresno	X				X		3	1
Fullerton	X						1	1
San Marcos	X				X		2	1
SB	X						2	1
Sonoma	X						1	1
Stanislaus	X				Rec.		1	1
Humboldt	X	X			X		3	2
LB	X	X			X		5	2
Sacramento	X	Or	Or				2	2
San Jose	X	X			X		3	2
SLO	X	X			X		5	2
Channel Is.	X	X	X				3	3
Chico	X			X X			3	3
San Diego	X	X	X		X		4	3
Pomona	X	X	X	X	X	X	8	4
Maritime	Doesn't offer major						N/A	N/A
MB	Offers a Degree in Social And Behavioral Science						N/A	N/A
SOCIOLOGY TMC	X	X	X	X	X		6	4

SUMMARY (Out of 21 schools):

- 21 schools REQUIRE Intro to Sociology
- 13 schools REQUIRE Statistics
- 8 schools REQUIRE Social Problems
- 4 schools REQUIRE Research Methods
- 3 schools REQUIRE BOTH Social Problems and Research Methods
- 1 school requires 0 sociology lower division courses
- 10 schools require 1 sociology lower division course
- 6 schools require 2 sociology lower division courses
- 3 schools require 3 sociology lower division courses
- 1 school requires 4 sociology lower division courses
- **The "Transfer Model Curriculum in Sociology" requires 4 sociology lower division courses. ???**
  - **Intro to Sociology**
  - **Social Problems**
  - **Sociological Research Methods**
  - **One additional Sociology course (Gender, Race, Family, Crime, Social Psych, …)**

Additional major requirements:

Bakersfield: Critical Thinking (Area A3)
Chico: Up to 6 units from any lower division sociology courses
Fresno: Critical Thinking about Society (Area A3)
Long Beach: Intro. to Data Analysis; Cultural Anthropology
Pomona: Critical Thinking/Logic; Intro to Psychology; 2nd quarter of Research Methods
Sacramento: or Marriage and its Alternative or Issues in Crime and Social Control
San Bernardino: Critical Thinking about Social Problems (Area A4) or Choices in the Life (2 units—Area E)
San Francisco: A total of 12 lower-division units, including SOC 105, SOC 110, SOC 200, SOC 245 and those courses taken at community colleges, automatically apply toward the 23-24 units of electives required for the degree.
SLO: International Political Economy; Intro to Human Geography

Region 7 CCC and CSU Articulation Officers
Endorsed 02-04-2011

The Region 7 CCC and CSU Articulation Officers met on November 3rd, 2010, to discuss SB 1440 and review the draft TMC (Transfer Model Curriculum) degrees that were released on November 2nd in five majors. Looking at the data from 08-09 and 09-10 academic years, over 75% of Region 7 CCC students who transfer to the CSU transfer to one of the three Region 7 CSU campuses; CSUDH, CSULA, CSUN. It is most advantageous to our students if we work together as a region to ensure that we are provided our students what they need to transfer as efficiently and well-prepared as possible. At the February 4, 2011 Region 7 meeting a vote was taken and 9 of the 13 Region 7 Articulation Officers - all 7 in attendance, and an additional 2 who voted via email – and all 3 Region 7 CSU Articulation Officers agreed to support the recommendations put forth below.

In general, the overarching concerns are the following:

- Per SB1440 section 66749E, these degrees should take into account existing articulation agreements. However, upon examination of the 3 finalized TMC statewide model degrees, they all contain coursework that is not required by the transfer institutions.
- The finalized statewide models do not have true lower-division major prep of at least 18 semester units. If we adopt these degrees, we are imposing an arbitrary restriction on course selection on our students.
- Many Region 7 CCC's do not offer all the required core courses in the proposed TMC degrees. If we adopt these degrees we should offer the core courses. Do we want to introduce new courses into our curriculum? How will this affect our existing course offerings? In times of budgetary uncertainty, departments will be forced to cut existing sections to fund the inclusion of these new courses in their schedules. An additional concern is the time it will take to develop these courses.
- Per the ASCCC, the proposed TMC degrees are based on an arranged marriage between the CI-D project and the SB1440 legislation. There is no direct correlation between these two pieces of legislation and the proposed TMC degrees contain a narrow selection of coursework based on CI-D descriptor development rather than on what is actually required for upper-division transfer. The result is that our students will take too much coursework from the same, or closely related, academic disciplines rather than exploring other fields. Our students should be given the opportunity to explore other disciplines. This exploration is arguably one of the main goals of lower-division baccalaureate education.

Specific concerns about the 3 finalized TMC degrees are:

Communications
09-10 CSU Systemwide Info: Rank 9 # of CCC transfers: 906
Major Impaction status at the Region 7 CSU campuses: not impacted

The primary concern with this model is that there are not 18-units required at the lower-division level in this major. CSUN requires no lower-division coursework and CSULA requires two courses. CSUDH does not offer this degree. The following reasons indicate that this model would not benefit our students:

- Students who change majors while they are with us may end up taking excess units if they follow this model. Why would we make them take units not required for transfer? This is contrary to the stated purpose of SB 1440.
- Coursework required in this model is offered at the upper-division level at some of the CSUs. We still do not know how this will be handled by the CSUs. The SB1440 language clearly leaves this up to the discretion of each CSU campus, most likely at the department level. Consequently, our students may be required to repeat this work after transfer at the upper-division level. Until this issue is resolved students should not be put in the position of possibly having to duplicate coursework.
- The courses chosen in the restricted electives correspond to the courses that have proposed CI-D descriptors rather than based on coursework that is in the best interest of our students.

Psychology
09-10 CSU Systemwide Info: Rank 2 # of CCC transfers: 2868
Major Impaction status at the Region 7 CSU campuses: CSUDH, CSUN: not impacted
CSULA: Impacted for transfer students: Admission of transfer students for available spaces will be based on a rank ordering of cumulative grade point average, with a minimum transferrable GPA of 2.75.

The primary concern with this model is that there are not 18-units required at the lower-division level in this major. The CSUs typically require 6-9 units in lower-division major preparation for this major. Additionally:

- Students who change majors while they are with us may end up taking excess units if they follow this model. Why would we make them take units not required for transfer? This is contrary to the stated purpose of SB 1440.
- Some of the coursework required in this model is offered at the upper-division level at some of the CSUs. We still do not know how this will be handled by the CSUs. The SB1440 language clearly leaves this up to the discretion of each CSU campus, most likely at the department level. Consequently, our students may be required to repeat this work after transfer at the upper-division level. Until this issue is resolved we do not want to put our students in the position of possibly having to duplicate coursework.
- The statewide model includes a core course, Research Methods, which very few Region 7 colleges offer. Further, we know that less than 50% of the CCCs offer this course statewide and only 10 CSU's require this course at the lower division level.
- The courses chosen in the restricted electives correspond to the courses that have proposed CI-D descriptors rather than based on coursework that is in the best interest of our students.

Sociology
09-10 CSU Systemwide Info: Rank 4 # of CCC transfers: 1428
Major Impaction status at the Region 7 CSU campuses: not impacted

The primary concern with this model is that there is not 18-units required at the lower-division level in this major. The CSUs typically require 3-6 units in lower-division major preparation. Additionally:

- Students who change majors while they are with us may end up taking excess units if they follow this model. Why would we make them take units not required for transfer in this major? This is contrary to the stated purpose of SB 1440.
- There are too many sociology and social science courses in this model. Students only need 9 units of general education coursework in the social sciences (from at least two different disciplines) and should not be forced into taking units not required for lower-division or general education. Our students should explore other disciplines which is arguably one of the main goals of lower-division baccalaureate education.
- The courses chosen in the restricted electives correspond to the courses that have proposed CI-D descriptors rather than based on coursework that is in the best interest of our students.

In conclusion, there is no rush to adopt these degrees. If it turns out that these degrees prove to be beneficial for our students we can add them to our curriculum. In our considered opinion, any degree we adopt should be self-evident in its benefit to our students and at this point in time there are too many unresolved issues and unanswered questions for us to recommend adopting any of the finalized TMC models.

Form 1: Course Outline of Record

Santa Monica College

Course Outline For
Medical Laboratory Technician 3

Course Title:	Blood Banking and Immunology			**Units:**	5
Total Instructional Hours: (usually 18 per unit)	**162**				
Hours per week (full semester equivalent) in Lecture:	**3 hrs**	In-Class Lab:	**6 hrs**	Arranged:	**(hours)**

Date Submitted:	October 10, 2010
Date Updated:	March 4, 2011
Transfer:	CSU

Prerequisite(s):	MLT 1
Skills Advisory:	None

I. Catalog Description:

This course introduces the theory of antigen-antibody reactions as it relates to blood grouping and typing, antibody detection and compatibility testing. Also discussed are blood donor screening and component preparations, immunologically related diseases, transplantation, and principles of antigen-antibody based tests. This course will utilize computer technology to enhance student learning.

II. Examples of Appropriate Text or Other Required Reading: (include all publication dates; for transferable courses at least one text should have been published within the last five years)

1.	Basic & Applied Concepts of Immunohematology, 2008, 2nd Edition By Kathy D. Blaney, MS, BB(ASCP)SBB and Paula R. Howard, MS, MT(ASCP)SBB ISBN: 978-0-323-04805-7
2.	Online MTS (Medical Training Solutions) modules at http://www.medtraining.org/ Provided by Medical Training Solutions, Inc., PO Box 17349, Seattle, WA 98127, site licenses will be purchased for students to be utilized either via eCompanion or on-campus in the Biology computer lab

III. Course Objectives:
Upon completion of the course students will be able to:

1.	Relate the physical and biochemical characteristics of the immunoglobulins.
2.	Discuss basic genetics and apply them to the necessary areas of blood banking.
3.	Discuss the rationale behind the utilization of serological reactions in the diagnoses of disease.
4.	Outline the principle behind the detection of antigen-antibody reactions in the following methodologies, antigen or antibody binding tests, fluid precipitation, gel precipitation, agglutination reactions, complement fixation and neutralization.
5.	Describe the ABO, Rh and other blood group antigens, relating methods for detecting and their clinical significance.
6.	Discuss the function of blood and component transfusion, the indications and contraindications for utilization and the laboratories role in preparation.
7.	Describe in detail the procedures performed in a clinical blood bank and serology laboratory.
8.	Discuss clinical conditions associated with Immunohematology.
9.	Demonstrate general knowledge of the wide variety and far reaching consequences of diseases of the immune system.
10.	Relate quality assurance regulation, safety and regulatory issues in Immunohematology.
11.	Describe HLA and its nomenclature, genetics, role in paternity testing and histocompatibility typing.
12.	Correctly obtain and process specimens to be used for immunohematology.

13.	Prepare red cell suspensions for use in blood bank procedures.
14.	Recognize and correctly grade hemagglutination, hemolysis and latex agglutination reactions. Perform serial dilution techniques. Titer positive antibody screens when necessary within one dilution of instructor.
15.	Recognize importance of antigen-antibody ratios in immunological reactions.
16.	Perform and interpret direct and indirect antiglobulin tests with 100% accuracy while recognizing and avoiding common pitfalls of technique. Utilize Coombs control cells and interpret correctly.
17.	Perform and interpret routine ABO forward and reverse grouping and Rh(o) (D)/weak D(Du) testing with 100% accuracy.
18.	Perform and antibody screen using commercially prepared cells with 80% accuracy.
19.	Perform a routine cross match with 100% accuracy and determine if the unit can be safely transfused realizing when the pathologist should be consulted.
20.	State the importance of quality assurance programs for blood banking and serology and perform routine procedures. Describe elements of a quality control program.
21.	State the principle behind and make decisions when to use variety of elution and absorption techniques in blood banking. Evaluate elution and absorption techniques.
22.	Perform and interpret routine cell panel for detection of red cell antibodies and be familiar with special techniques employed in antibody identification.
23.	Perform and evaluate other (than ABO) blood group antigen typing (including additional Rh antigens).
24.	Recognize discrepancies in ABO grouping and utilize basic problem solving skills to resolve these discrepancies.
25.	Recognize incompatible results on cross matching procedures. Perform preliminary problem solving techniques to determine if said units could safely transfused. Follow SOP for dealing with incompatibilities.
26.	Select appropriate blood group and type for a variety of blood components for transfusion therapy in routine and non-routine situations. State AABB appropriate handling and storage for the variety of blood products.
27.	Determine the acceptability of blood donor, be familiar with processing of blood, appropriate testing and labelling once drawn.
28.	Using DAT, ABO, Rh, and elution studies, perform cord blood workups and identify potential causes of Hemolytic Disease of the Newborn (HDN).
29.	Perform and evaluate testing for administration of Rhogam.
30.	Perform the functions of the clinical laboratory in the investigation transfusion complications.
31.	State and follow established procedure for emergency transfusions.
32.	Complete and maintain required blood banking records for accreditation, AABB inspection, federal guidelines.
33.	Perform and interpret RPR testing for syphilis.
34.	Describe routine procedures used in syphilis.
35.	Outline procedures and given results interpret serological testing for hepatitis.
36.	Perform and interpret rapid strep serological tests, be familiar with procedures for Antistreptolysin O titers, rapid cold agglutinin detection and cold agglutinin titers.
37.	Be familiar with testing for Bacterial Agglutinations.
38.	Perform and interpret serological tests for C-reactive protein, infectious mononucleosis, and rheumatoid arthritis.
39.	Perform and interpret serological testing for pregnancy.
40.	Outline procedures and given results interpret results from ANA testing. Discuss antibodies detected in a variety of autoimmune diseases.
41.	Perform and interpret fetal screening for fetal-maternal bleed. Calculate vials of Rhogam necessary to administer.
42.	Demonstrate familiarity with serological rubella testing.
43.	Articulate currently available methods for HIV testing.

IV. Methods of Presentation:

- Lecture
- Discussion
- Demonstration

- Case Studies
- Laboratory exercises
- Online modules either at http://www.medtraining.org/ or on eCompanion

V. Course Content:	
% of course	**Topic**
50%	Blood Bank (knowledge of commonly performed screens, crossmatch and special tests, blood donation, transfusion therapy and reactions)
50%	Immunology

VI. Methods of Evaluation: (Specific percentages will vary with instructor; approximate values are shown.)	
% of grade	**Evaluation Method**
20%	Laboratory Assignments
20%	Module Quizzes
25%	Lab Practical - Practicum style tests to show working knowledge of procedural tests
5%	Core Abilities - lab skills/technique performance as assessed by instructor throughout course
30%	Final Exam

VII. Sample Assignments: (please describe at least 2 sample assignments)

1. Online module: "Ordering and Administering"

   Student will access module content which includes images, video and text through http://www.medtraining.org/ and then complete the online module quizzes. Scores will then be recorded and transmitted to instructor.

   Upon successful completion of "Ordering and Administering" module, the student will be able to:

   1. List the steps required to correctly order blood products for transfusion.
   2. Identify basic blood products and explain indications for use
   3. Define Zero Tolerance Policy of patient identification during transfusion administration
   4. List the steps required to complete a bedside check of a patient receiving a blood transfusion
   5. Identify the steps to perform an evaluation of a blood product before transfusion.
   6. Recognize signs and symptoms of an adverse event during and following blood product administration
   7. Describe actions to perform if a transfusion reaction occurs

2. Case Study

   Working in groups of 3 to 4, students will be presented with a case study that describes a brief medical scenario. Following the scenario will be related questions that the students will answer and then present the case study to the class. The following is an example of a possible case study.

   A 22-year-old man with a history of allergic reactions to peanuts was admitted to our hospital in a coma. After inadvertently ingesting satay sauce, which contains peanuts, during a Chinese meal, he had become unwell and had had a cardiorespiratory arrest that resulted in cerebral anoxia, coma, and brain death. A high level of peanut-specific IgE was detected in his serum ... multiple organs were subsequently procured. The donor's HLA phenotype was A1,24;B8,44;DRB1*03,13.

   ...the donor's liver and right kidney were given in transplantation to a 35-year-old man, and the left kidney and pancreas were given to a 27-year-old woman. The man (HLA phenotype, A2,19;B12,- ;DRB1*07,13) had end-stage renal failure.... The woman (HLA phenotype, A1,24;B8,44;DRB1*03,04) had chronic renal failure....

   Both transplant recipients received immunosuppressive induction therapy with muromonab-CD3 (OKT3) and corticosteroids, azathioprine, and cyclosporine. Neither had ever had any allergy to peanuts. Three months

	after transplantation, the recipient of the liver-kidney transplant reported a skin rash and laryngeal dyspnea after eating peanuts. Allergy to peanuts was diagnosed on the basis of the clinical findings; the absence of specific IgE antibodies before transplantation, their presence at the time the symptoms appeared, and their decline thereafter; and a positive basophil degranulation test. Questions 1. What does HLA stand for? What is an HLA phenotype? 2. How does HLA relate to MHC in immune physiology? 3. Why is it important to understand the “HLA phenotypes” of the individuals in this case? 4. From what you know about the structure of an antibody, explain how an IgE can be “peanutspecific.” 5. One way to test for an allergy is to mix a specific allergen with basophils and mast cells from a patient and look for “degranulation.” What is occurring when these cells degranulate? How does this become a positive test for a specific allergy? 6. Why were the patients put on an immunosuppressive therapy after their transplantations?

Form 2: Course Approval and Data Sheet for: Medical Laboratory Technician 3

Is this a New Course, Updated/Revised Course, or Reinstated Course?	**New**
If this is a NEW course, anticipated semester and year of first offering:	**Spring 2012**

If this is a new course, please provide a rationale for the addition of this course to the curriculum:

To alleviate the clinical laboratory workforce shortage in California, there is a demand for Medical Laboratory Technicians (MLTs). This creates an opportunity for community colleges to train Medical Laboratory Technicians as the needed middle step in the clinical laboratory career ladder, thereby bridging the gap between the lower rung jobs of Phlebotomist and Laboratory Assistant and the high rung job of Clinical Laboratory Scientist (CLS), which is most in demand. This is the third in a series of courses that will prepare students to take the California MLT licensing exam and the certification exams offered by the American Society of Clinical Pathology.

List all A.A. majors in which this course is/will be **required**:

- MLT (forthcoming)

List all A.A. majors in which this course is/will be an **option**:

- n/a

List all Certificates of Achievement in which this course is/will be **required**:

- n/a

List all Certificates of Achievement in which this course is/will be an **option**:

- n/a

List all Department Certificates in which this course is/will be **required**:

- n/a

List all Department Certificates in which this course is/will be an **option**:

- n/a

Should this course be **transferable to the CSU?**	**YES**
Should this course be **transferable to the UC?**	**NO**

Repeatability (requires that the student's experience will be qualitatively different with each repetition).

- How many times should this course be repeatable? **none**

Course Load Factor suggested by department: **1.0**
Rationale for the above load factor suggestion: This is consistent with Life Science Department courses with both a lecture and a lab component.

Appropriate Minimum Qualifications for faculty teaching this course: (Refer to: *Minimum Qualifications for Faculty and Administrators in California Community Colleges* adopted by The Board of Governors)

- Faculty must demonstrate adequate knowledge and proficiency in their content areas and the ability to teach effectively at the appropriate level. (e.g., clinical laboratory scientists/medical technologists, clinical laboratory technicians/medical laboratory technicians, administrators, managers and physicians). Requirements according to NAACLS Standards Required for Accredited CLT/MLT Programs.
- Instructors employed for practical experience are licensed physicians and surgeons, doctorate scientists, clinical laboratory bioanalysts, clinical laboratory scientists, licensed clinical laboratory specialist, licensed medical laboratory technicians with five years of practical experience, or certified public health microbiologists. Requirements according to State of California regulations DPH-08-001.

Form 3: Student / Program / Institutional Learning Outcomes

October 10, 2010
Medical Laboratory Technician 3

Course Level Student Learning Outcomes: (Must list at least 2)

1.	Read with comprehension, be critical of what they read, and apply knowledge gained to real life situations. For example: − Discuss strategies for solving serologic problems associated with warm, cold and drug-induced autoimmune hemolytic anemias and select appropriate blood for transfusion if indicated. Assessed by written or computerized exams and case studies − Perform compatibility testing including antibody identification and antigen typing when required and select the appropriate blood type for transfusion. Assessed by lab reports and lab practical.
	As assessed by: Laboratory Assignments, Online modules, Lab Practical and Final Exam - Scores of 75% or better

2.	Demonstrate the ability to think critically by gathering facts, generating insights, analyzing data, and evaluating information. For example: − Perform compatibility testing including antibody identification and antigen typing when required and select the appropriate blood type for transfusion. Assessed by lab reports and lab practical. − Perform ABO/Rh typing on patient samples and resolve any discrepancies encountered. Assessed by written or computerized exams, lab reports and lab practical.
	As assessed by: Laboratory Assignments, Online modules, Lab Practical and Final Exam - Scores of 75% or better

Demonstrate how this course supports/maps to at least one program learning outcome. Please include all that apply:

1.	Provides students with the foundational knowledge and skills necessary to perform blood grouping and typing, antibody detection, compatibility procedures and routine serology testing during the serology and blood bank rotations of their clinical practicum
	The student will gain experience in performance of techniques of immunohematology. Techniques relevant to the performance of a blood banking technologist in a donor or transfusion service and techniques used in serological diagnosis of acute bacterial infections, pregnancy, rheumatoid arthritis, infectious mononucleosis, rubella, and syphilis will be explored. This course will utilize computer technology to enhance student learning.

Demonstrate how this course supports/maps to at least one of the following Institutional Learning Outcomes. Please include all that apply. Through their experiences at SMC, students will

ILO #2	obtain the knowledge and academic skills necessary to access, evaluate, and interpret ideas, images, and information critically in order to communicate effectively, reach conclusions, and solve problems.
	This course is the third in a series towards MLT licensing. In the workforce, an MLT prepares and analyzes specimens of blood and body fluids using microscopes, analyzers and other sophisticated laboratory equipment and computerized instruments to search for basic clues to the absence, presence, extent, and causes of diseases.

S/ILO Committee Use Only	reviewed by:	CKS	10-18-10

Form 4: Associate Degree Course Criteria and Standards, as per Title V, Section 55002

Medical Laboratory Technician 3

Section I – Course Criteria
Items 1 through 14 below. If any criterion is not met, course credit is non-applicable toward the associate degree.

		Criterion Met	Criterion Not Met
1.	This course is a collegiate course meeting the needs of students eligible for admission. It will be offered as described in the course outline of record (attached).	x	
2.	This course is to be taught by an instructor with a masters or higher degree, or the equivalent, in an approved discipline.	x	
3.	The course outline of record specifies the unit value, scope, student objectives and content in terms of a specific body of knowledge.	x	
4.	The course outline of record specifies requested reading and writing assignments, and other assignments to be done outside of class (homework).	x	
5.	The course outline of record specifies instructional methodology and methods of evaluation for determining whether the stated student objectives have been met.	x	
6.	This course will be taught in accordance with a set of instructional objectives common to all students enrolled in the course (all sections).	x	
7.	This course will provide for the measurement of student performance in terms of the stated course objectives. A formal grade based upon uniform standards of student evaluation will be issued for the permanent record of each student.	x	
8.	This formal grade will be based on student ability to demonstrate proficiency in the subject matter by means of either (1) written essays, (2) problem solving exercises, or (3) student skill demonstrations.	x	
9.	The number of units of credit assigned to the course is based upon the number of lecture, laboratory, and/or activity hours as specified in the course outline.	x	
10.	A minimum of three hours of work per week (including class time) is required for each unit of credit, prorated for short term, lab and activity courses.	x	
11.	Subject matter is treated with a scope and intensity which requires students to study independently outside of class time.	x	
12.	Learning skills and a vocabulary deemed appropriate for a college course are required. Educational materials used are judged to be college level.	x	
13.	Repeated enrollments are not allowed, except as permitted by provisions of Division 2, Title V, Sections 55761-55763 and 58161.	x	
14.	Student ability to (1) think critically and (2) understand and apply concepts at a college level is required in order to participate in the course.	x	

Section II – Recommendations for Prerequisites

15.	Are entrance skills and consequent prerequisites for the course required?	**YES**
	If yes, state the recommended prerequisites:	MLT 1

16.	Is eligibility for enrollment in a certain level of English and/or mathematics necessary for success in this course?			**YES**
	If yes, state the English and/or math level necessary for success:			
	English level recommended:	English 1	Math level recommended:	

FORM 5: APPROVALS PAGE

Medical Laboratory Technician 3

Department/Area Vote(s):

	Yes	No	Not voting	Date of vote
Life Science	18	0	2	3/4/2011
Additional Department or Area (if applicable)				
Please list any other Departments, Areas, or Chairpersons consulted regarding this course:				

Department Chair Approval:	Garen Baghdasarian	Date:	3/4/2011
Additional Department Chair Approval: (if applicable)		Date:	

SMC Librarian:

List of suggested materials has been given to librarian?	Yes	X	No	
Library has adequate materials to support course?	Yes	X	No	
Librarian Approval:	Carol Womack	Date:	10/25/2010		

Approvals:

Articulation Officer:		Date:	
Instructional Dean:		Date:	
Curriculum Committee:		Date:	
Academic Senate:		Date:	
Board of Trustees:		Date:	

Form 6: Prerequisite, Corequisite, & Advisory Checklist and Worksheet (as per Matriculation Regulations)

Medical Laboratory Technician 3
Prerequisite: MLT 1; Introduction to Clinical Laboratory Profession
Prerequisite: CHEM 12; General Chemistry II
Prerequisite: ANATMY 1; General Human Anatomy
Prerequisite: PHYS 3; Human Physiology
Prerequisite: MCRBIO 1; Fundamentals of Microbiology

SECTION 1 - CONTENT REVIEW: Check items 1-9 below. If any criterion is not met, the prerequisite will be disallowed.

Criterion	Met	Not Met
1. Faculty with appropriate expertise have been involved in the determination of the prerequisite, corequisite or advisory.	X	
2. The department in which the course is (will be) taught has considered course objectives in accordance with accreditation standards.	X	
3. Selection of this prerequisite, corequisite or advisory is based on tests, the type and number of examinations, and grading criteria.	X	
4. Selection of this prerequisite, corequisite or advisory is based on a detailed course syllabus and outline of record, related instructional materials and course format.	X	
5. The body of knowledge and/or skills which are necessary for success before and/or concurrent with enrollment have been specified in writing.	X	
6. The course materials presented in this prerequisite or corequisite have been reviewed and determined to teach knowledge or skills needed for success in the course requiring this prerequisite.	X	
7. The body of knowledge and/or skills necessary for success in the course have been matched with the knowledge and skills developed by the prerequisite, corequisite or advisory.	X	
8. The body of knowledge and/or skills taught in the prerequisite are not an instructional unit of the course requiring the prerequisite.	X	
9. Written documentation that steps 1 to 8 above have been taken is readily available in departmental files.	X	

SECTION II - ADDITIONAL LEVEL OF SCRUTINY

In addition to the affirmation of content review listed in section I, an additional level of scrutiny is also required. The level of scrutiny depends on which type of prerequisite is involved. There are six types and each is listed below. Please identify which one is being used to justify the proposed prerequisite. The additional level of scrutiny corresponding to each type of prerequisite is identified below.

	Type 1:	Standard Prerequisite
x	Type 2:	Sequential within and across disciplines
	Type 3:	Course in communication or computational skills as prerequisite for course other than another skills course
x	Type 4:	Program prerequisites
	Type 5:	Health and Safety
	Type 6:	Recency and other measures of readiness (miscellaneous)

Prerequisite Worksheet

Note: While the MLT 3 course deals only with Blood Banking, Immunology, and Phlebotomy, it is part of the MLT program. This is why there is such and extensive prerequisite list, it applies to entrance skills that will be necessary for all courses in the MLT series (MLT 1 – 4) that lead up to their Practicum course (MLT 5 – under construction, though the plan is to model off Nursing 50). Please see specific courses for how the exit skills of the prereqs apply to each individual MLT course.

ENTRANCE SKILLS FOR: MLT 3

A)	Demonstrate knowledge of common chemical concepts such as atom, molecule, major types of bonding, ionization, oxidation, reduction and polarity
B)	Demonstrate knowledge of acidity, basicity and pH calculation
C)	Ability to perform basic lab skills such as solution preparation, dilution and titration
D)	Apply dimensional analysis and demonstrate a working knowledge of metric units including those for mass (g), length (m), area (m^2), volume (L and m^3), energy (J), quantity (moles) and concentration (M) as well as metric prefixes and abbreviations such as kilo, micro, nano, etc
E)	Identify tissues, organs, and body structures of the human body at a detailed level in actual specimens as well as in models and other representations.
F)	Describe the structures, interrelationships and general functions of major structures, organs, and organ systems of the human body.
G)	Correlate concepts of microscopic structure, macroscopic structure, and functions to the whole human body.
H)	Use surface features of the human body as landmarks to identify and evaluate underlying structures.
I)	Describe the various organs that make up the following systems: Nervous, Endocrine, Circulatory, Immune, Respiratory, Excretory, Digestive, Reproductive
J)	Describe an understanding of the major principles of cell biology including all major structures, functions, and physiological activities.
K)	Describe and distinguish the four classes of macromolecules, their respective subgroups, and their structural and functional characteristics.
L)	Understanding of basic physiological processes including respiration, digestion, circulation, excretion, homeostasis, blood pressure, neuronal transduction, hormone action, sensory physiology, muscular contractions, specific and nonspecific immunity, reproduction
M)	Understanding and applying aseptic technique as well as exhibit manual dexterity in aseptic technique
N)	Demonstrating proper handwashing techniques
O)	Describe and distinguish various viruses, prokaryotes, and eukaryotes in terms of their medical importance in Microbiology: Domain Bacteria, Domain Archaea, Domain Eukarya, Kingdom Protista, Kingdom Fungi, Kingdom Animalia (as it relates to helminths)
P)	Read and follow lab procedures
Q)	Understand and follow lab safety rules
R)	Applied critical thinking to transfer memorized information into conceptual understandings
S)	Read and understand written material at the college level
T)	Read and synthesis material from multiple sources to generate a clear coherent thesis
U)	Properly incorporate and document evidence in support of a thesis
V)	Recognize and critically assess unstated assumptions or inferences underlying written references or data sets, and to incorporate these in their analysis of a thesis.

EXIT SKILLS FOR: CHEM 12, ANATMY 1, PHYS 3, MCRBIO 1

	Chemistry 12 related Exit Skills
1.	Understand how to handle chemicals safely
2.	Demonstrate knowledge of common chemical concepts such as atom, molecule, major types of bonding, ionization, oxidation, reduction and polarity
3.	Identify common organic functional groups
4.	Demonstrate knowledge of acidity, basicity and pH calculation
5.	Effectively use common chemistry equipment including pH-meter, laboratory balance, volumetric glassware, Bunsen burners etc.
6.	Ability to perform basic lab skills such as solution preparation, dilution and titration
7.	Achieve a reasonably high degree of reproducibility, accuracy and precision in their lab results
8.	Apply dimensional analysis and demonstrate a working knowledge of metric units including those for mass (g), length (m), area (m^2), volume (L and m^3), energy (J), quantity (moles) and concentration (M) as well as metric prefixes and abbreviations such as kilo, micro, nano, etc
	Anatomy 1 related Exit Skills
9.	Clearly focus on materials of a variety of sizes, thickness, and densities under a microscope.
10.	Identify tissues, organs, and body structures of the human body at a detailed level in actual specimens as well as in models and other representations.
11.	Describe the structures, interrelationships and general functions of major structures, organs, and organ systems of the human body.
12.	Correlate concepts of microscopic structure, macroscopic structure, and functions to the whole human body.
13.	Exhibit manual dexterity in dissection and prepare clear dissections.
14.	Use surface features of the human body as landmarks to identify and evaluate underlying structures.
15.	Describe the various organs that make up the following systems: Nervous, Endocrine, Circulatory, Immune, Respiratory, Excretory, Digestive, Reproductive
	Physiology 3 related Entrance Skills
16.	Describe an understanding of the major principles of cell biology including all major structures, functions, and physiological activities.
17.	Describe and distinguish the four classes of macromolecules, their respective subgroups, and their structural and functional characteristics.
18.	Understanding of basic physiological processes including respiration, digestion, circulation, excretion, homeostasis, blood pressure, neuronal transduction, hormone action, sensory physiology, muscular contractions, specific and nonspecific immunity, reproduction
	Microbiology 1 related Entrance Skills
19.	Focus microscopes appropriately in selecting lighting direction and intensity, magnification, focus including use of the iris diaphragm, condenser, and filters, and effective ability to recognize structures viewed.
20.	Make reliable observations and record these observations systematically.
21.	Understanding and applying aseptic technique as well as exhibit manual dexterity in aseptic technique
22.	Demonstrating proper handwashing techniques
23.	Describe and distinguish various viruses, prokaryotes, and eukaryotes in terms of their medical importance in Microbiology: Domain Bacteria, Domain Archaea, Domain Eukarya, Kingdom Protista, Kingdom Fungi, Kingdom Animalia (as it relates to helminths)
	Skills obtained from Chem 12, Anat 1, Phys 3, and Micro 1
24.	Read and follow lab procedures

25.	Understand and follow lab safety rules
26.	Applied critical thinking to transfer memorized information into conceptual understandings
27.	Read and understand written material at the college level
28.	Read and synthesis material from multiple sources to generate a clear coherent thesis
29.	Properly incorporate and document evidence in support of a thesis
30.	Recognize and critically assess unstated assumptions or inferences underlying written references or data sets, and to incorporate these in their analysis of a thesis.

Please note that for MLT 3 Entrance Skills A – D relate to the Chemistry 12 Prerequisite. Entrance Skills E - I relate to the Anatomy 1 Prerequisite. Entrance Skills J – L relates to the Physiology 3 Prerequisite. Entrance Skills M – 0 relate to the Microbiology 1 Prerequisite. Entrance Skills P – V relate to all Prerequisite courses.

	ENTRANCE SKILLS FOR MLT 3																						
EXIT SKILLS FOR Chemistry 12, Anatomy 1, Physiology 3, Microbiology 1		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
	1																						
	2	C 12																					
	3																						
	4		C 12																				
	5																						
	6			C 12																			
	7																						
	8				C 12																		
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	11						Ana 1																
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	21													Mb 1									
	22														Mb 1								
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	24																X						
	25																	X					
	26																		X				
	27																			X			
	28																				X		
	29																					X	
	30																						X

Form 1: Course Outline of Record

Santa Monica College

Course Outline For
Medical Laboratory Technician 4

Course Title:	Clinical Chemistry			**Units:**	5
Total Instructional Hours: (usually 18 per unit)	**162**				
Hours per week (full semester equivalent) in Lecture:	**3**	In-Class Lab:	**6 hrs**	Arranged:	**(hours)**

Date Submitted:	October 10, 2010
Date Updated:	March 9, 2011
Transfer:	CSU

Prerequisite(s):	MLT 1
Skills Advisory:	None

I. Catalog Description:

This course will discuss basic interpretations of biochemistry and the concentration of enzymes, carbohydrates, lipids, proteins, electrolytes, and blood gases. The need for drug testing and evaluation will also be a part of this curriculum. The student will perform routine clinical tests on biological fluids, maintain quality assurance records, and perform preventative maintenance on instrumentation. This course will utilize computer technology to enhance student learning.

II. Examples of Appropriate Text or Other Required Reading: (include all publication dates; for transferable courses at least one text should have been published within the last five years)

1.	Clinical Chemistry: Principles, Procedures, Correlations, 2005, 5th ed. Michael L. Bishop, Edward P. Fody, and Larry Schoeff. Baltimore, MD: Lippincott Williams & Wilkins, 756 pp., $76.95, hardcover. ISBN 0-7817-4611-6.
2.	Online MTS (Medical Training Solutions) modules at http://www.medtraining.org/ Provided by Medical Training Solutions, Inc., PO Box 17349, Seattle, WA 98127, site licenses will be purchased for students to be utilized either via eCompanion or on-campus in the Biology computer lab

III. Course Objectives:

Upon completion of the course students will be able to:

1.	Regarding Clinical Chemistry, upon completion of the lecture portion of this course the student shall be able to: a. Relate the proper specimen collection and handling, type of quality control used, reference ranges, principle of analysis currently available, and sources of analytical errors for each of the analytes discussed or approached in the course. b. Outline the normal digestion, anabolism and catabolism of carbohydrates, proteins, and lipids within the body. c. Discuss the basic principles of laboratory instrumentation and state how they relate to the measurement of serum or body fluid analytes. d. Demonstrate an understanding of the mechanism by which the body regulates water and pH homeostasis. e. Discuss the anatomy and physiology of the following organs or systems. State some of the common pathological states and what analyte measurements would be utilize to monitor the function of each: Renal, Cardiovascular, Hepatic, Thyroid, Bone, and Pancreatic. f. List the reasons that therapeutic drugs are monitored and state the current drugs most often monitored and the procedure most often used.
2.	Regarding Clinical Chemistry, upon completion of the laboratory portion of this course the student shall be able to: a. Demonstrate the following skills as pertaining to each individual test that is listed. i. Relate the proper specimen collection and handling techniques.

	ii. Perform acceptable quality control measures iii. State if results are within reference range iv. State principle of analysis of method available v. State sources of error and methods to minimize or eliminate these errors. vi. Perform the analysis within +/- 2SD of the recognized mean for a control serum; Proteins, enzymes, electrolytes, carbohydrates, lipids, nonprotein nitrogen; Perform & Calculate: creatinine clearance, anion gap, osmolarity, dilutions, VLDL, LDL, Beers Law. b. Explain the basic principles of laboratory instrumentation available in the clinical labs. c. Perform routine preventative maintenance and troubleshooting procedures on the instruments available. d. Determine if the results on different analytes are consistent as far as determining the status of the following organs or systems: Renal, cardiovascular, hepatic, pancreatic.

IV. Methods of Presentation:

- Lecture
- Discussion
- Demonstration
- Case Studies
- Laboratory exercises
- Online modules either at http://www.medtraining.org/ or on eCompanion

V. Course Content:

% of course	Topic
25%	Carbohydrates, Acid Base and Electrolytes
25%	Proteins and Other Nitrogen-Containing Compounds
25%	Enzymes, Lipids and Lipoproteins
25%	Special Chemistry (Endocrinology, Tumor Markers, TDM, Toxicology)

VI. Methods of Evaluation: (Specific percentages will vary with instructor; approximate values are shown.)

% of grade	Evaluation Method
20%	Laboratory Assignments
20%	Module Quizzes
25%	Lab Practical - Practicum style tests to show working knowledge of procedural tests
5%	Core Abilities - lab skills/technique performance as assessed by instructor throughout course
30%	Final Exam

VII. Sample Assignments: (please describe at least 2 sample assignments)

1. Online module: " Protein Electrophoresis"

   Student will access module content which includes images, video and text through http://www.medtraining.org/ and then complete the online module quizzes. Scores will then be recorded and transmitted to instructor.

   Upon successful completion of "Protein Electrophoresis" module, the student will be able to:

   1. Describe the methods of agarose gel electrophoresis, immunofixation, CSF isoelectric focusing and densitometry.
   2. Name the clinical conditions most commonly associated with monoclonal gammopathy, and some key clinical features of each condition.
   3. View an agarose gel, an immunofixation, a densitometry, and determine if a monoclonal gammopathy is present. If it is present, the user will be able to identify the immunoglobulin type.
   4. View an agarose gel of serum, urine, or an isoelectric focusing gel of cerebrospinal fluid and identify the electrophoresis pattern (e.g., inflammation, liver disease, hemolysis, alpha-1 antitrypsin deficiency,

	tubular proteinuria, CSF oligoclonal banding, etc). Online exercise has an Exam following the content.
2.	Online module: "Cardiac Markers" Student will access module content which includes images, video and text through http://www.medtraining.org/ and then complete the online module quizzes. Scores will then be recorded and transmitted to instructor. Upon successful completion of "Cardiac Markers" module, the student will be able to: 1. Describe basic cardiac anatomy, physiology, and direction of coronary blood flow 2. Correlate the electrical activity of the heart with coronary blood flow 3. Define the terms: angina, ischemia, cardiovascular disease, and coronary artery disease 4. List the symptoms of ischemia 5. Describe the pathophysiology of coronary artery disease, acute coronary syndrome, acute myocardial infarction, and heart failure 6. List the criteria for diagnosing an acute myocardial infarction 7. List the causes and symptoms of heart failure 8. Identify the current biomarkers of acute myocardial infarction 9. Identify the current biomarker for heart failure 10. Discuss the Framingham Score, including risk factors used in the calculation 11. Identify biomarkers of coronary risk assessment
3.	Case Study Working in groups of 3 to 4, students will be presented with a case study that describes a brief medical scenario. Following the scenario will be related questions that the students will answer and then present the case study to the class. The following is an example of a possible case study. A 31-year-old woman was admitted into a regional hospital for abdominal pain, decreased appetite, malaise, confusion, and tea-colored urine. Investigations showed acute liver failure with a markedly decreased liver function characterized by greatly increased aminotransferases, bilirubin concentration, prothrombin time and international normalized ratio. There was no history of liver disease or intake of herbal medicines or over-the-counter medications. Her condition worsened 2 days later, and she was transferred to our hospital for further management and the possibility of liver transplantation. A physical examination revealed a jaundiced woman in a fair general condition and with a soft but tender right upper quadrant with no guarding or rebound tenderness of the abdomen. She went into a semicomatose state 1 day later. Routine laboratory testing of a blood sample obtained on her arrival in the hospital revealed the following results: bilirubin, 1210 μmol/L (reference interval, 7–19 μmol/L); alanine aminotransferase, 6170 U/L (reference interval, 5–31 U/L); aspartate aminotransferase, 5080 U/L (reference interval, 12–28 U/L); alkaline phosphatase, 150 U/L (reference interval, 34–104 U/L); ammonia, 171 μmol/L (reference interval, 0–33 μmol/L); lactate dehydrogenase, 6830 U/L (reference interval, 200–360 U/L); prothrombin time, 39.7 s (reference interval, 11.3–13.2 s); international normalized ratio, 3.3; acetaminophen, 121 μmol/L (therapeutic up to 100 μmol/L). Other results were unremarkable. A serologic evaluation was negative for hepatitis A and B. The plasma acetaminophen concentration prompted the clinical suspicion of drug overdose, but she denied taking acetaminophen. The patient's liver enzymes, prothrombin time, international normalized ratio, and acetaminophen concentrations were monitored on subsequent days. Her general condition and liver function gradually improved, but her plasma acetaminophen concentration remained >100 μmol/L. Failure of the liver to metabolize the drug was suspected, and liver transplantation was contemplated at that juncture. 1. What are the common causes of acute liver failure? 2. What is the usual pharmacokinetic pattern of acetaminophen after ingestion, and how does overdose cause liver injury? 3. What methods are available to measure acetaminophen concentrations? 4. What factors interfere with acetaminophen measurement?

Form 2: Course Approval and Data Sheet for: Medical Laboratory Technician 4

Is this a New Course, Updated/Revised Course, or Reinstated Course?	**New**
If this is a NEW course, anticipated semester and year of first offering:	**Fall 2012**

If this is a new course, please provide a rationale for the addition of this course to the curriculum:

To alleviate the clinical laboratory workforce shortage in California, there is a demand for Medical Laboratory Technicians (MLTs). This creates an opportunity for community colleges to train Medical Laboratory Technicians as the needed middle step in the clinical laboratory career ladder, thereby bridging the gap between the lower rung jobs of Phlebotomist and Laboratory Assistant and the high rung job of Clinical Laboratory Scientist (CLS), which is most in demand. This is the third in a series of courses that will prepare students to take the California MLT licensing exam and the certification exams offered by the American Society of Clinical Pathology.

List all A.A. majors in which this course is/will be **required**:

- MLT (forthcoming)

Should this course be **transferable to the CSU?**	**YES**
Should this course be **transferable to the UC?**	**NO**

Repeatability (requires that the student's experience will be qualitatively different with each repetition).

- How many times should this course be repeatable? **none**

Course Load Factor suggested by department: **1.0**
Rationale for the above load factor suggestion: This is consistent with Life Science Department courses with both a lecture and a lab component.

Appropriate Minimum Qualifications for faculty teaching this course: (Refer to: *Minimum Qualifications for Faculty and Administrators in California Community Colleges* adopted by The Board of Governors)

- Faculty must demonstrate adequate knowledge and proficiency in their content areas and the ability to teach effectively at the appropriate level. (e.g., clinical laboratory scientists/medical technologists, clinical laboratory technicians/medical laboratory technicians, administrators, managers and physicians). Requirements according to NAACLS Standards Required for Accredited CLT/MLT Programs.
- Instructors employed for practical experience are licensed physicians and surgeons, doctorate scientists, clinical laboratory bioanalysts, clinical laboratory scientists, licensed clinical laboratory specialist, licensed medical laboratory technicians with five years of practical experience, or certified public health microbiologists. Requirements according to State of California regulations DPH-08-001.

Form 3: Student / Program / Institutional Learning Outcomes

October 10, 2010
Medical Laboratory Technician 4

Course Level Student Learning Outcomes: (Must list at least 2)

1.	Read with comprehension, be critical of what they read, and apply knowledge gained to real life situations. For example: − Discuss the anatomy and physiology of the following organs or systems. State some of the common pathological states and what analyte measurements would be utilize to monitor the function of each: Renal, Cardiovascular, Hepatic, Thyroid, Bone, and Pancreatic. Assessed by written or computerized exams and case studies. − Explain the basic principles of laboratory instrumentation available in the clinical labs and perform routine preventative maintenance and troubleshooting procedures on the instruments available. Assessed by written or computerized exams and observation of student during lab sessions.
	As assessed by: Laboratory Assignments, Online modules, Lab Practical and Final Exam - Scores of 75% or better

2.	Demonstrate the ability to think critically by gathering facts, generating insights, analyzing data, and evaluating information. − Relate the proper specimen collection and handling, type of quality control used, reference ranges, principle of analysis currently available, and sources of analytical errors for each of the analyses discussed or approached in the course. Assessed by written or computerized exams and lab practical. − Determine if the results on different analyses are consistent as far as determining the status of the following organs or systems: Renal, cardiovascular, hepatic, pancreatic. Assessed by written or computerized exams, case studies and lab practical.
	As assessed by: Laboratory Assignments, Online modules, Lab Practical and Final Exam - Scores of 75% or better

Demonstrate how this course supports/maps to at least one program learning outcome. Please include all that apply:

1.	Provides students with the foundational knowledge and skills necessary to perform diagnostic laboratory analysis in accordance with established laboratory procedures and professional standards of practice, without error of clinical significance.
	The student will gain experience in performance of techniques related to specimen collection, handling, storage and preparation, biochemical and/or physiologic theory, principles of methods, analyses of chemical constituents of physiological specimens, disease manifestations and clinical correlations. This course will utilize computer technology to enhance student learning.

Demonstrate how this course supports/maps to at least one of the following Institutional Learning Outcomes. Please include all that apply. Through their experiences at SMC, students will

ILO #2	obtain the knowledge and academic skills necessary to access, evaluate, and interpret ideas, images, and information critically in order to communicate effectively, reach conclusions, and solve problems.
	This course is the fourth in a series towards MLT licensing. In the workforce, an MLT prepares and analyzes specimens of blood and body fluids using microscopes, analyzers and other sophisticated laboratory equipment and computerized instruments to search for basic clues to the absence, presence, extent, and causes of diseases.

S/ILO Committee Use Only	reviewed by:	CKS	10-18-10

form modified 05/12/2010

Form 4: Associate Degree Course Criteria and Standards, as per Title V, Section 55002

Medical Laboratory Technician 4

Section I – Course Criteria
Items 1 through 14 below. If any criterion is not met, course credit is non-applicable toward the associate degree.

		Criterion Met	Criterion Not Met
1.	This course is a collegiate course meeting the needs of students eligible for admission. It will be offered as described in the course outline of record (attached).	x	
2.	This course is to be taught by an instructor with a masters or higher degree, or the equivalent, in an approved discipline.	x	
3.	The course outline of record specifies the unit value, scope, student objectives and content in terms of a specific body of knowledge.	x	
4.	The course outline of record specifies requested reading and writing assignments, and other assignments to be done outside of class (homework).	x	
5.	The course outline of record specifies instructional methodology and methods of evaluation for determining whether the stated student objectives have been met.	x	
6.	This course will be taught in accordance with a set of instructional objectives common to all students enrolled in the course (all sections).	x	
7.	This course will provide for the measurement of student performance in terms of the stated course objectives. A formal grade based upon uniform standards of student evaluation will be issued for the permanent record of each student.	x	
8.	This formal grade will be based on student ability to demonstrate proficiency in the subject matter by means of either (1) written essays, (2) problem solving exercises, or (3) student skill demonstrations.	x	
9.	The number of units of credit assigned to the course is based upon the number of lecture, laboratory, and/or activity hours as specified in the course outline.	x	
10.	A minimum of three hours of work per week (including class time) is required for each unit of credit, prorated for short term, lab and activity courses.	x	
11.	Subject matter is treated with a scope and intensity which requires students to study independently outside of class time.	x	
12.	Learning skills and a vocabulary deemed appropriate for a college course are required. Educational materials used are judged to be college level.	x	
13.	Repeated enrollments are not allowed, except as permitted by provisions of Division 2, Title V, Sections 55761-55763 and 58161.	x	
14.	Student ability to (1) think critically and (2) understand and apply concepts at a college level is required in order to participate in the course.	x	

Section II – Recommendations for Prerequisites

15.	Are entrance skills and consequent prerequisites for the course required?	**YES**
	If yes, state the recommended prerequisites:	MLT 1

16.	Is eligibility for enrollment in a certain level of English and/or mathematics necessary for success in this course?			**YES**
	If yes, state the English and/or math level necessary for success:			
	English level recommended:	English 1	Math level recommended:	

form modified 05/12/2010

FORM 5: APPROVALS PAGE

Medical Laboratory Technician 4

Department/Area Vote(s):

	Yes	No	Not voting	Date of vote
Life Science	18	0	2	3-4-2011
Additional Department or Area (if applicable)				
Please list any other Departments, Areas, or Chairpersons consulted regarding this course:				

Department Chair Approval:	Garen Baghdasarian	Date:	3-4-2011
Additional Department Chair Approval: (if applicable)		Date:	

SMC Librarian:

List of suggested materials has been given to librarian?	Yes	X	No		
Library has adequate materials to support course?	Yes	X	No		
Librarian Approval:	Carol Womack	Date:	10/25/2010		

Approvals:

Articulation Officer:		Date:	
Instructional Dean:		Date:	
Curriculum Committee:		Date:	
Academic Senate:		Date:	
Board of Trustees:		Date:	

Form 6: Prerequisite, Corequisite, & Advisory Checklist and Worksheet (as per Matriculation Regulations)

Medical Laboratory Technician 4
Prerequisite: MLT 1; Introduction to Clinical Laboratory Profession
Prerequisite: CHEM 12; General Chemistry II
Prerequisite: ANATMY 1; General Human Anatomy
Prerequisite: PHYS 3; Human Physiology
Prerequisite: MCRBIO 1; Fundamentals of Microbiology

SECTION 1 - CONTENT REVIEW: Check items 1-9 below. If any criterion is not met, the prerequisite will be disallowed.

Criterion	Met	Not Met
1. Faculty with appropriate expertise have been involved in the determination of the prerequisite, corequisite or advisory.	X	
2. The department in which the course is (will be) taught has considered course objectives in accordance with accreditation standards.	X	
3. Selection of this prerequisite, corequisite or advisory is based on tests, the type and number of examinations, and grading criteria.	X	
4. Selection of this prerequisite, corequisite or advisory is based on a detailed course syllabus and outline of record, related instructional materials and course format.	X	
5. The body of knowledge and/or skills which are necessary for success before and/or concurrent with enrollment have been specified in writing.	X	
6. The course materials presented in this prerequisite or corequisite have been reviewed and determined to teach knowledge or skills needed for success in the course requiring this prerequisite.	X	
7. The body of knowledge and/or skills necessary for success in the course have been matched with the knowledge and skills developed by the prerequisite, corequisite or advisory.	X	
8. The body of knowledge and/or skills taught in the prerequisite are not an instructional unit of the course requiring the prerequisite.	X	
9. Written documentation that steps 1 to 8 above have been taken is readily available in departmental files.	X	

SECTION II - ADDITIONAL LEVEL OF SCRUTINY

In addition to the affirmation of content review listed in section I, an additional level of scrutiny is also required. The level of scrutiny depends on which type of prerequisite is involved. There are six types and each is listed below. Please identify which one is being used to justify the proposed prerequisite. The additional level of scrutiny corresponding to each type of prerequisite is identified below.

	Type 1:	Standard Prerequisite
x	Type 2:	Sequential within and across disciplines
	Type 3:	Course in communication or computational skills as prerequisite for course other than another skills course
x	Type 4:	Program prerequisites
	Type 5:	Health and Safety
	Type 6:	Recency and other measures of readiness (miscellaneous)

Prerequisite Worksheet

Note: While the MLT 4 course deals only with Clinical Chemistry, it is part of the MLT program. This is why there is such and extensive prerequisite list, it applies to entrance skills that will be necessary for all courses in the MLT series (MLT 1 – 4) that lead up to their Practicum course (MLT 5 – under construction, though the plan is to model off Nursing 50). Please see specific courses for how the exit skills of the prereqs apply to each individual MLT course.

ENTRANCE SKILLS FOR: MLT 4

A)	Understand how to handle chemicals safely
B)	Demonstrate knowledge of common chemical concepts such as atom, molecule, major types of bonding, ionization, oxidation, reduction and polarity
C)	Identify common organic functional groups
D)	Demonstrate knowledge of acidity, basicity and pH calculation
E)	Effectively use common chemistry equipment including pH-meter, laboratory balance, volumetric glassware, Bunsen burners etc.
F)	Ability to perform basic lab skills such as solution preparation, dilution and titration
G)	Achieve a reasonably high degree of reproducibility, accuracy and precision in their lab results
H)	Apply dimensional analysis and demonstrate a working knowledge of metric units including those for mass (g), length (m), area (m^2), volume (L and m^3), energy (J), quantity (moles) and concentration (M) as well as metric prefixes and abbreviations such as kilo, micro, nano, etc
I)	Describe the structures, interrelationships and general functions of major structures, organs, and organ systems of the human body.
J)	Describe an understanding of the major principles of cell biology including all major structures, functions, and physiological activities.
K)	Describe and distinguish the four classes of macromolecules, their respective subgroups, and their structural and functional characteristics.
L)	Understanding of basic physiological processes including respiration, digestion, circulation, excretion, homeostasis, blood pressure, neuronal transduction, hormone action, sensory physiology, muscular contractions, specific and nonspecific immunity, reproduction
M)	Make reliable observations and record these observations systematically.
N)	Understanding and applying aseptic technique as well as exhibit manual dexterity in aseptic technique
O)	Demonstrating proper handwashing techniques
P)	Read and follow lab procedures
Q)	Understand and follow lab safety rules
R)	Applied critical thinking to transfer memorized information into conceptual understandings
S)	Read and understand written material at the college level
T)	Read and synthesis material from multiple sources to generate a clear coherent thesis
U)	Properly incorporate and document evidence in support of a thesis
V)	Recognize and critically assess unstated assumptions or inferences underlying written references or data sets, and to incorporate these in their analysis of a thesis.

EXIT SKILLS FOR: CHEM 12, ANATMY 1, PHYS 3, MCRBIO 1

	Chemistry 12 related Exit Skills
1.	Understand how to handle chemicals safely

2.	Demonstrate knowledge of common chemical concepts such as atom, molecule, major types of bonding, ionization, oxidation, reduction and polarity
3.	Identify common organic functional groups
4.	Demonstrate knowledge of acidity, basicity and pH calculation
5.	Effectively use common chemistry equipment including pH-meter, laboratory balance, volumetric glassware, Bunsen burners etc.
6.	Ability to perform basic lab skills such as solution preparation, dilution and titration
7.	Achieve a reasonably high degree of reproducibility, accuracy and precision in their lab results
8.	Apply dimensional analysis and demonstrate a working knowledge of metric units including those for mass (g), length (m), area (m^2), volume (L and m^3), energy (J), quantity (moles) and concentration (M) as well as metric prefixes and abbreviations such as kilo, micro, nano, etc
	Anatomy 1 related Exit Skills
9.	Clearly focus on materials of a variety of sizes, thickness, and densities under a microscope.
10.	Identify tissues, organs, and body structures of the human body at a detailed level in actual specimens as well as in models and other representations.
11.	Describe the structures, interrelationships and general functions of major structures, organs, and organ systems of the human body.
12.	Correlate concepts of microscopic structure, macroscopic structure, and functions to the whole human body.
13.	Exhibit manual dexterity in dissection and prepare clear dissections.
14.	Use surface features of the human body as landmarks to identify and evaluate underlying structures.
15.	Describe the various organs that make up the following systems: Nervous, Endocrine, Circulatory, Immune, Respiratory, Excretory, Digestive, Reproductive
	Physiology 3 related Entrance Skills
16.	Describe an understanding of the major principles of cell biology including all major structures, functions, and physiological activities.
17.	Describe and distinguish the four classes of macromolecules, their respective subgroups, and their structural and functional characteristics.
18.	Understanding of basic physiological processes including respiration, digestion, circulation, excretion, homeostasis, blood pressure, neuronal transduction, hormone action, sensory physiology, muscular contractions, specific and nonspecific immunity, reproduction
	Microbiology 1 related Entrance Skills
19.	Focus microscopes appropriately in selecting lighting direction and intensity, magnification, focus including use of the iris diaphragm, condenser, and filters, and effective ability to recognize structures viewed.
20.	Make reliable observations and record these observations systematically.
21.	Understanding and applying aseptic technique as well as exhibit manual dexterity in aseptic technique
22.	Demonstrating proper handwashing techniques
23.	Describe and distinguish various viruses, prokaryotes, and eukaryotes in terms of their medical importance in Microbiology: Domain Bacteria, Domain Archaea, Domain Eukarya, Kingdom Protista, Kingdom Fungi, Kingdom Animalia (as it relates to helminths)
	Skills obtained from Chem 12, Anat 1, Phys 3, and Micro 1
24.	Read and follow lab procedures
25.	Understand and follow lab safety rules
26.	Applied critical thinking to transfer memorized information into conceptual understandings
27.	Read and understand written material at the college level

28.	Read and synthesis material from multiple sources to generate a clear coherent thesis
29.	Properly incorporate and document evidence in support of a thesis
30.	Recognize and critically assess unstated assumptions or inferences underlying written references or data sets, and to incorporate these in their analysis of a thesis.

Please note that for MLT 4 Entrance Skills A – H relate to the Chemistry 12 Prerequisite. Entrance Skill I relates to the Anatomy 1 Prerequisite. Entrance Skills J – L relates to the Physiology 3 Prerequisite. Entrance Skills M – 0 relate to the Microbiology 1 Prerequisite. Entrance Skills P – V relate to all Prerequisite courses.

	ENTRANCE SKILLS FOR MLT 4																						
EXIT SKILLS FOR Chemistry 12, Anatomy 1, Physiology 3, Microbiology 1		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
	1	C 12																					
	2		C 12																				
	3			C 12																			
	4				C 12																		
	5					C 12																	
	6						C 12																
	7							C 12															
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	26																		X				
	27																			X			
	28																				X		
	29																					X	
	30																						X

Application Date

California Community Colleges

APPLICATION FOR APPROVAL—NEW CREDIT PROGRAM

RECYCLING AND RESOURCE MANAGEMENT LEVEL II PROPOSED PROGRAM TITLE	**GEORGIA LORENZ** CONTACT PERSON
SANTA MONICA COLLEGE COLLEGE	**DEAN, ACADEMIC AFFAIRS** TITLE
SANTA MONICA DISTRICT	**310-434-4277** PHONE NUMBER
FALL 2011 PROJECTED PROGRAM START DATE	**LORENZ_GEORGIA@SMC.EDU** E-MAIL ADDRESS

GOAL(S) OF PROGRAM (CHECK ALL THAT APPLY):

X CAREER TECHNICAL EDUCATION (CTE) ☐ TRANSFER ☐ OTHER

TYPE OF PROGRAM (CHECK ALL THAT APPLY):

☐ A.A. DEGREE X A.S. DEGREE ☐ CERTIFICATE OF ACHIEVEMENT: X 18+ semester (or 27+ quarter) units
12-18 semester (or 18-27 quarter) units

PLANNING SUMMARY

Recommended T.O.P. Code	0303.0	Estimated FTE Faculty Workload	0.5
Units for Degree Major or Area of Emphasis	18	Number of New Faculty Positions	None
Total Units for Degree	60	Est. Cost, New Equipment	N/A
Required Units-Certificate	18	Cost of New/Remodeled Facility	N/A
Projected Annual Completers	50	Est. Cost, Library Acquisitions	N/A
Projected Net Annual Labor Demand (CTE)	**290**	When will this program undergo review as part of college's Program Evaluation Plan?	Month/Semester **Fall** Year **2013**

DEVELOPMENT CRITERIA NARRATIVE & DOCUMENTATION

Attach a document that describes the development of the proposed program, addressing the five criteria as listed below. **Number** the sections of the narrative to match the lists below. If appropriate, you may note that a section is "not applicable" but **do not re-number** the sections. Provide documentation in the form of attachments as indicated.

Criteria A. Appropriateness to Mission

1. Statement of Program Goals and Objectives
2. Catalog Description
3. Program Requirements
4. Background and Rationale

Criteria B. Need

5. Enrollment and Completer Projections
6. Place of Program in Curriculum/Similar Programs
7. Similar Programs at Other Colleges in Service Area
8. Labor Market Information & Analysis (CTE only)
9. Employer Survey (CTE only)
10. Explanation of Employer Relationship (CTE only)
11. List of Members of Advisory Committee (CTE only)
12. Recommendations of Advisory Committee (CTE only)

Attachment: Labor / Job Market Data (CTE only)
Attachment: Employer Survey (CTE only)
Attachment: Minutes of Key Meetings

Criteria C. Curriculum Standards

13. Display of Proposed Sequence
14. Transfer Applicability (if applicable)

Attachment: Outlines of Record for Required Courses
Attachment: Transfer Documentation (if applicable)

Criteria D. Adequate Resources

15. Library and/or Learning Resources Plan
16. Facilities and Equipment Plan
17. Financial Support Plan
18. Faculty Qualifications and Availability

Criteria E. Compliance

19. Based on model curriculum (if applicable)
20. Licensing or Accreditation Standards
21. Student Selection and Fees

SUBMIT ORIGINAL AND ONE COPY OF THIS FORM AND ALL ATTACHMENTS

CCC-501: APPROVAL–NEW CREDIT PROGRAM
REQUIRED SIGNATURES

Proposed Program Title RECYCLING AND RESOURCE MANAGEMENT College Santa Monica College

LIBRARY AND LEARNING RESOURCES

Library and learning resources needed to fulfill the objectives of the program are currently available or are adequately budgeted for.

DATE	SIGNATURE, CHIEF LIBRARIAN/LEARNING RESOURCES MANAGER	Mona Martin TYPED OR PRINTED NAME

CAREER TECHNICAL EDUCATION ONLY:

Program fulfills the requirements of employers in the occupation, provides students with appropriate occupational competencies, and meets any relevant professional or licensing standards.

DATE	SIGNATURE, ADMINISTRATOR OF CTE	Patricia Ramos TYPED OR PRINTED NAME
DATE	SIGNATURE, CHAIR, CTE ADVISORY COMMITTEE	Laura Manson TYPED OR PRINTED NAME

Program was recommended for approval by Regional Occupational Consortium on _____ (date).

DATE	SIGNATURE, CHAIR, REGIONAL CONSORTIUM	TYPED OR PRINTED NAME

LOCAL CURRICULUM APPROVAL

Program and courses within the program have been approved by the curriculum committee and instructional administration, and satisfy all applicable requirements of Title 5 regulations.

DATE	SIGNATURE, CHAIR, CURRICULUM COMMITTEE	Guido Davis Del Piccolo TYPED OR PRINTED NAME
DATE	SIGNATURE, ARTICULATION OFFICER	Estela Narrie TYPED OR PRINTED NAME
DATE	SIGNATURE, CHIEF INSTRUCTIONAL OFFICER	Jeffery Shimizu TYPED OR PRINTED NAME
DATE	SIGNATURE, PRESIDENT, ACADEMIC SENATE	Eric Oifer TYPED OR PRINTED NAME

COLLEGE PRESIDENT

All provisions of Title 5, Chapter 6 have been considered. The college is prepared to support establishment and maintenance of the proposed instructional program.

DATE	SIGNATURE, PRESIDENT OF THE COLLEGE	Chui L. Tsang TYPED OR PRINTED NAME

DISTRICT APPROVAL

On _____(date), the governing board of the _____District approved the instructional program attached to this application.

DATE	SIGNATURE, SUPERINTENDENT/CHANCELLOR OF DISTRICT	Chui L. Tsang TYPED OR PRINTED NAME

SUBMIT ORIGINAL AND ONE COPY OF THIS FORM AND ALL ATTACHMENT

Criteria A: Appropriateness to Mission

1. Statement of Program Goals and Objectives

The goal of the Recycling and Resource Management Certificate of Achievement is to build on Santa Monica College's green workforce development offerings, with a high quality, industry-driven program that will enable students to obtain desirable employment in the expanding green workforce field of recycling and resource management. The program is designed to provide students with the skills and knowledge necessary to place and advance in a wide-range of jobs related to sustainable resource management. It is also designed to provide students with a comprehensive perspective on the role that recycling and waste diversion plays in solving global economic and environmental issues.

One of Santa Monica College's Institutional Learning Outcomes (ILO) focuses on the concept of applied knowledge and valuation of the physical world in terms of students taking responsibility for their own impact on the Earth by living a sustainable and ethical life style. The Recycling and Resource Management Certificate of Achievement addresses this ILO as students apply the principles learned in this certificate not only to their lives, but to their communities at large.

The 18-unit, Level II Certificate of Achievement in Recycling and Resource Management is a continuation of the proposed 12-unit Level I Certificate. Level II builds on the concentrated core courses to provide program participants with both broader theoretical frameworks and industry hands-on experience, which is the signature pedagogy of the Sustainable Technologies program.

The additional 6 units can be chosen from a list of 4 electives:

- Environmental Psychology (PSYCH 40)
- Environmental Politics (POL SC 22)
- Environmental Studies (ENV 7)
- RRM Internship (RRM Intern)

The internship will be coordinated through the California Works Alliance Industry Advisory Board and the SMC Career Services Department. In addition to completing over 180 hours of on-the-job training, students will attend class on a regular basis to discuss industry trends, politics, and programs. Students will create oral and written project reports and be given input from faculty knowledgeable in Recycling and Resource Management. Internships can help students build real world relationships with industry, while allowing the student to explore potential careers and further fields of study in a practical environment.

Students interested primarily in transferring will be encouraged to complete all 6 units from the theory-based list which are UC transferable. These courses provide an important conceptual context for solving large scale environmental problems and will be open to all program participants.

Specific program objectives include:

- Providing students with the skills and resources needed to find jobs in the recycling and resource management industry upon completion of the program.
- Providing students with appropriate background needed to work in various recycling and waste management related positions.

- Providing students the opportunity to get hands-on training through exercises and other experiential learning.
- Supporting the recycling and resource management industry by providing a pool of highly qualified applicants.

2. Catalog Description

Recycling and Resource Management is among the largest and most rapidly growing industries in America. As more cities and businesses develop sustainability and zero waste policies, the need increases for personnel who can properly manage resource use and recycling. The Recycling and Resource Management curriculum emphasizes an interdisciplinary approach, exploring recycling and resource management from a variety of perspectives and in a variety of settings. Core curriculum will provide students with an in-depth study of waste diversion and resource management, emphasizing cultural, community, and business applications. Courses cover governmental and organizational policies, practices, and procedures in waste and resource management, including best management practices and successful community and educational zero waste programs.

Certificate programs

The program requirements for certificates in Recycling and Resource Management are designed to provide students with the skills and knowledge necessary to obtain desirable employment or advancement in the field of recycling and resource management. It is also designed to provide students with a comprehensive perspective on the role that recycling and waste diversion plays in solving global economic and environmental issues.

3. Program Requirements

The Recycling and Resource Management Certificate of Achievement can be obtained by taking 12 units with a grade of "C" or better in each of the 4 required Recycling and Resource Management core courses, two theoretical elective courses and an internship. In addition, students may choose to expand into an Associate in Arts degree when students follow the Associate in Arts degree plan and complete a total of sixty semester units that include the general education requirements with the Recycling and Resource Management Certificate of Achievement area of emphasis.

RECYCLING AND RESOURCE MANAGEMENT CERTIFICATE OF ACHIEVEMENT
Required Courses (12 units)

RRM 1, Introduction to Recycling and Resource Management (3)
RRM 2, Culture and Zero Waste (3)
RRM 3, Resource Management and Zero Waste for Communities (3)
RRM 4, Resource Management and Zero Waste in Business (3)

Plus two courses selected from the following options: (6 units)

Geography 7, Introduction to Environmental Geography (3)
Psychology 40, Environmental Psychology (3)
Political Science 22, Environmental Politics (3)
RRM 90, Recycling and Resource Management Internship (3)

2011 SANTA MONICA COLLEGE ASSOCIATE OF ARTS DEGREE:
RECYCLING AND RESOURCE MANAGEMENT (60 units)

The Associate in Arts degree in Recycling and Resource Management involves satisfactory completion of a minimum of 60 semester units, including at least 18 units in the area of emphasis as outlined below and fulfillment of all SMC general education requirements. Students must complete the major requirements in effect at the time enrollment begins, or major requirements in effect at graduation, as long as continuous enrollment is maintained. See Santa Monica College catalog for definition of continuous enrollment. At least 50 percent of the major units must be completed at Santa Monica College. Each course for the major must be completed with a grade of C (2.0) or higher.

4. Background and Rationale

Santa Monica College, on behalf of a consortium of educational, workforce development, and environmental education and advocacy organizations has been awarded a Community-Based Job Training Grant by the United States' Department of Labor. The purpose of the project is to expand the educational and career ladder that supports the high-growth recycling and resource management industry, thus increasing the number of qualified workers available to enter the workforce at all levels of the career ladder, while decreasing region-wide unemployment and improving the health of the region and planet.

Growth in green jobs has been one of the few bright spots in California's economy and continued growth is expected, particularly in southern California. Sustained growth in this industry is expected in both the public and private sectors. As local and regional governments invest in these simple, yet effective, sustainable practices subsequent changes in public policy will require action on the part of for-profit commercial entities. To support change in public policy, individual behavior, and industry practices, Santa Monica College is working closely with industry experts to develop and deliver training that is timely, flexible, and able to address the immediate needs of the industry. The proposed course sequence is *Introduction to Recycling and Resource Management,* followed by *Culture and Zero Waste, Resource Management and Zero Waste for Communities,* and *Resource Management and Zero Waste in Business.*

Criteria B. Need

5. Enrollment and Completer Projections

Beginning Fall 2011, we will offer all four courses in 8-week sessions to the first cohort of 35 students. We are expecting to enroll approximately 70 students for the academic year 2011-2012, with at least 50 completers. An additional 70 students will be enrolled for academic year 2012-2013, again, with 50 completers. These outcomes are also required as part of the Community-Based Job Training (CBJT) Grant.

- RRM 1 and RRM 2 will be offered the first 8 weeks
- RRM 3 and RRM 4 will be offered the second 8 weeks
- Electives and internship will be offered every semester

In Spring 2012, all four courses will be offered in similar 8-week sessions to the second cohort of 35 students. In each subsequent semester, all four courses will continue to be offered as 8-week sessions. Students enrolled in the 18-unit Certificate of Achievement can complete the two elective courses in the immediately following semesters, after completing the four core courses.

6. Place of Program in Curriculum and Similar Programs
This program is part of SMC's Sustainable Technologies Program, which is currently housed in the Earth Science Department. The program will be located in the TOPS code 0303.0, Environmental Technologies**.**

7. Similar Programs at Other Colleges in the Service Area
There are no other colleges offering similar programs in the service area. However, the California Works Alliance: Jobs through Recycling and Resource Management is a consortium project funded by the Department of Labor. As specified in the grant, SMC is working in collaboration with two other community colleges in the southern California area: Irvine Valley College and Golden West College. Both of these institutions are located in Orange County.

8. Labor Market Information and Analysis
Industry Overview
For the creation of this application, Santa Monica College consulted the Economic Modeling System, Inc (EMSI) for combined data analysis as is traditionally used for labor market analysis. Unfortunately, due to the emerging nature of the jobs that will be filled by graduates of this training program, the data findings were not sufficient in demonstrating the extensive need for a training program in waste minimization. The existing state framework for tracking labor market data has not yet been adjusted to capture information about the growing green jobs this program seeks to fill. This lack of data on green jobs has prompted a flurry of recent research not only in California, but across the nation. The Employment Development Department's Labor Market Information Division released a comprehensive study of green jobs in October 2010. The data from their report, collected through a statewide survey with responses from nearly 15,200 firms from throughout California, confirms the need for more training at the community college level in Recycling and Resource Management. In Southern California, which includes both Los Angeles and Orange County, it is estimated that approximately 51,000 employees spend 50 percent or more of their time in the job activity of "Recycling Existing Materials," one of 5 G.R.E.E.N. activities defined by the EDD report (see Table 1).[1]

[1] http://www.labormarketinfo.edd.ca.gov/contentpub/GreenDigest/CA-Green-Economy-SummarySurveyResults.pdf

Table 1 / GREEN Employment by Economic Strategy Panel Region

Work Anytime in this Capacity

Region	G	R	E	E	N	Other	Total	% Green Jobs by Region	All Firms Total Emp	% All Firms by Region	Green Jobs: Share of All Jobs
Bay Area	3,510	25,120	39,810	26,270	25,010	320	120,030	27.7%	2,756,270	21.9%	4.4%
Central Coast	340	1,780	3,740	1,160	6,330	0	13,350	3.1%	336,140	2.7%	4.0%
Central Sierra	60	580	90	250	1,010	0	1,990	0.5%	41,590	0.3%	4.8%
Greater Sacramento	1,550	13,150	4,260	2,290	2,010	0	23,260	5.4%	808,810	6.4%	2.9%
Northern California	550	1,390	1,610	2,740	4,070	0	10,360	2.4%	127,720	1.0%	8.1%
Northern Sacramento Valley	210	650	1,160	510	1,750	0	4,280	1.0%	95,980	0.8%	4.5%
San Joaquin Valley	830	7,720	5,060	2,370	21,750	0	37,730	8.7%	995,480	7.9%	3.8%
Southern Border	1,450	12,530	14,880	5,130	3,730	0	37,740	8.7%	1,176,630	9.3%	3.2%
Southern California	16,510	51,020	46,220	29,310	35,380	100	178,550	41.3%	6,096,480	48.3%	2.9%
Other	10	1,440	540	2,000	1,480	90	5,570	1.3%	175,420	1.4%	3.2%
All Regions	25,030	115,370	117,390	72,020	102,530	510	432,840	100.0%	12,610,520	100.0%	3.4%
	5.8%	26.7%	27.1%	16.6%	23.7%	0.1%	100%				

Note: Totals may not add due to rounding.

Generating and Storing Renewable Energy
Recycling Existing Materials
Energy Efficient Product Manufacturing, Distribution, Construction, Installation, and Maintenance
Education, Compliance, and Awareness
Natural and Sustainable Product Manufacturing

It should also be noted that the proposed certificate not only services the largest sector of green jobs listed in the report, Recycling Existing Materials, but also the latter three sectors: Energy Efficient Product Manufacturing, Education, Compliance and Awareness and Natural and Sustainable Product all of which have strong ties to the Recycling and Resource Management training program. [2]

This same EDD report noted that a quarter of the 500,000 green jobs in California (approximately 125,000) can be attributed to recycling.[3] A broader perspective was taken in the 2001 study, the U.S. Recycling Economic Information Project (REIP), which found that the recycling and reuse industry sustained approximately 56,000 operations, employed over 1.1 million people, and generated an annual payroll of nearly $37 billion.[4]

Finally, in 2011, Next 10 released a report called "Many Shades of Green: Regional Distribution and Trends in California's Green Economy," which highlights the green industry of major metropolitan areas throughout California. According to Next 10's figures, Los Angeles' employment in green jobs has grown by 20 percent from 1995 through 2009, adding 6,600 jobs. Of all of Los Angeles' green employment, Recycling and Waste jobs make up the largest share

[2] http://www.labormarketinfo.edd.ca.gov/contentpub/GreenDigest/CA-Green-Economy-SummarySurveyResults.pdf
[3] http://www.cawrecycles.org/whats_new/recycling_news/apr19_AB_32_job_growth
[4] U.S. Recycling Economic Information Study, prepared by RW Beck for the National Recycling Coalition and US EPA, July 2001, available on the Web at: http://www.epa.gov/waste/conserve/rrr/rmd/rei-rw/index.htm

(see Chart 1). Furthermore, as noted earlier, the proposed certificate program is interdisciplinary in nature and therefore will result in qualified personnel for not only the Recycling and Waste sector analyzed below, but also potentially in Energy Generation (from waste by products), Air and Environment (greenhouse gas reduction), and Green Building.

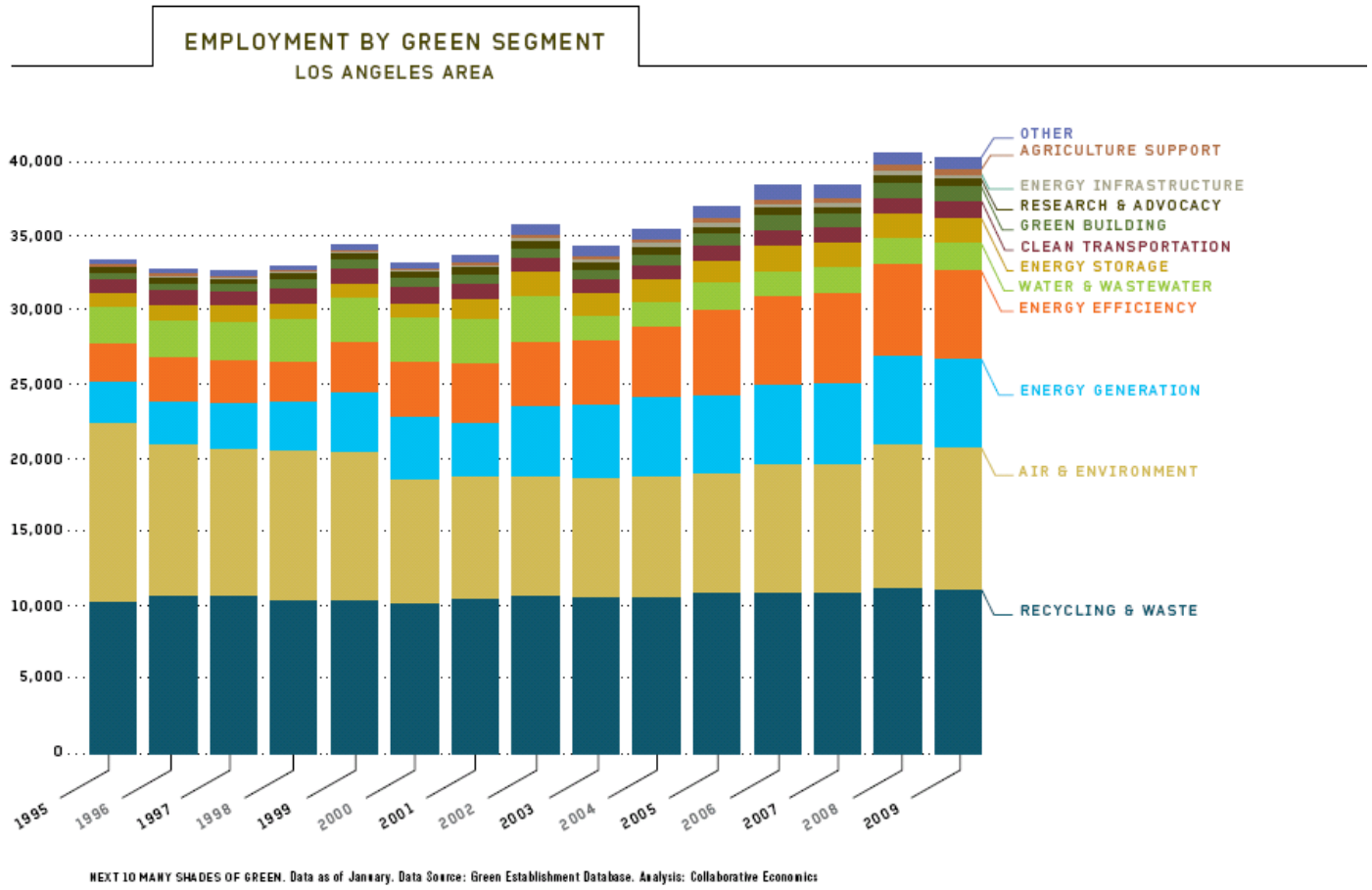


Chart 1. Employment by Green Segment, Los Angeles Region

Many of the emerging sectors in the recycling and resource management industry are not as evident today as they will be over the next decade. Many of these industries, aimed at conserving resources, are more labor intensive and therefore produce more jobs. Experts expect to see significant job growth in the following sectors listed below[5]:

- Reuse Services
- Deconstruction
- Repair/Rebuild/Refill/Services
- Production of Durable, Reusable, Refillable, Low-waste products
- Clean Production/Clean Technology/Green Chemistry
- Pollution Prevention (P2) and Waste Avoidance
- Extended Producer Responsibility and Environmental Labeling Programs

[5] The following 3 pages are primarily excerpted from *Grassroots Recycling Network Comments on Green Jobs*, submitted to U.S. Department of Labor, Bureau of Labor Statistics, prepared by Gretchen Brewer, Earth Circle Conservation & Recycling, April 30, 2009.

Factors Influencing the Industry

The California Global Warming Solutions Act (AB 32) and other Federal, State and local policies regarding climate change and sustainability are significant drivers for the expansion of the recycling and resource management industry. This industry offers enormous opportunities to reduce greenhouse gas emissions at a fraction of the cost of other technology-intensive approaches such as wind energy, solar, and energy efficiency.[6] As the recycling industry grows, the added value of these green jobs will result in the reduction of approximately 515 million metric tons of carbon dioxide equivalent. This is equivalent to shutting down 72 coal power plants or taking 50 million cars off the road.[7] Therefore, many California cities are moving forward to initiate their Zero Waste Plans including the City of Los Angeles and the City of Glendale. These actions will propel the expansion of reuse, recycling, and composting programs throughout the region. Those cities that have already adopted a Zero Waste Plan include the City of Burbank and Culver City.

The California Air Resources Board is considering the adoption of Mandatory Commercial Recycling regulations in the Spring of 2011. These regulations will require all major businesses in California to increase commercial education and outreach to the business sector, while increasing diversion as a method to reduce greenhouse gas emissions. To achieve the measure's objective, an additional 2 to 3 million tons of materials must be recycled from the commercial sector by the year 2020 and beyond. This will create job opportunities and training needs for service providers, local government and those in the business sector. A *Cost Study on Commercial Recycling* was conducted to understand the costs, savings, and net costs associated with the expansion of commercial recycling in California in response to this Mandatory Commercial Recycling Measure. The Cost Study noted that "the proposed regulation may generate between 938 and 1,396 new full time equivalent recycling collection, support, supervisory, and management jobs."[8]

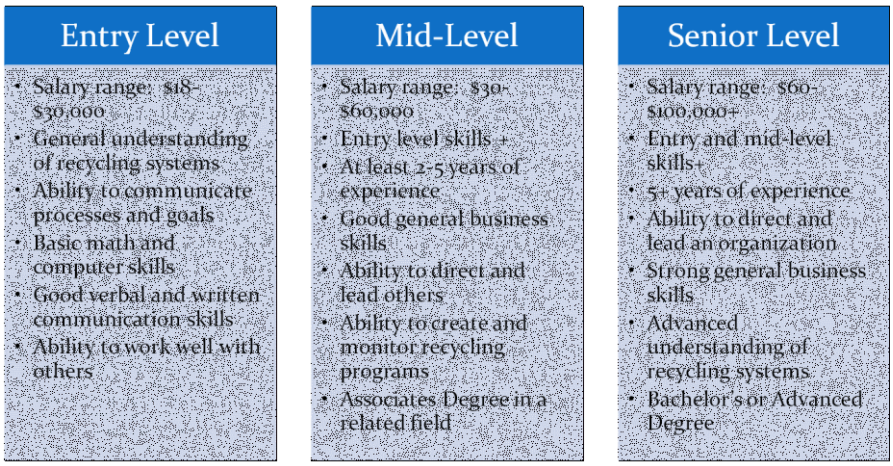
Employment and Earnings Potential

As with the labor market data, wage earnings data is not yet available through EMSI or the Centers for Excellence for the emerging jobs targeted by this program. The California Resource Recovery Association (CRRA), a partner and industry advisor for this program, developed the following chart to highlight the employment and earnings potential for a range of jobs in the recycling and resource management industry.

[6] Based on study by Lisa Skumatz, Skumatz Economic Research Associates, presented at the National Recycling and Zero Waste Conference of the GrassRoots Recycling Network, 10/19/09

[7] *More Jobs, Less Pollution: Growing the Recycling Economy in the U.S., Executive Summary*, prepared by Tellus Institute with Sound Resource Management, February 2011.

[8] *Cost Study on Commercial Recycling*, produced under contract by HF&H Consultants for CA Department of Resources, Recycling and Recovery, 2010, page 3.



Some of the job opportunities used in this analysis include:

- Account Representative in related fields
- Recycling Coordinator or Manager
- Sales in related field
- Facilities & Operations
- Customer Services in related fields
- Material Handler/Identification & Sorting
- Accounting Clerk /Procurement
- Program Representative or Manager
- Events Coordinator
- Line Worker/Manufacturing
- Project Manager
- Sustainability Coordinator/Manager

The following is a list of Southern California businesses, industries and employers that currently have, or anticipate a need for skilled workers in recycling and resource management:

Type of Employer	**Specific Employers**
Recycling and waste management companies and nonprofit organizations There are over 600 are businesses based in the Los Angeles area.	• Waste Management Inc. • Republic Services of Southern CA • IMS Recycling • SA Recycling
Material Recovery Facilities (MRFs) Mixed recyclables are sorted at these facilities and shipped to processors for remanufacture.	Southern California has 9 MRFs, which is the highest concentration of MRFs in the nation, including: • Allen Company • Potential Industries • Puente Hills Material Recovery Facility This facility is anticipated to expand and increase operations to accommodate 7-day/24-hour shifts to process 4,400 tons per day by 2012.
Local government agencies These organizations are mandated to meet California's legislative and regulatory	These entities will initially include Southern California cities and counties, as well as regional authorities such as the Mojave Desert & Mountain Recycling Authority.

requirements, such as the recent commercial recycling regulations, as well as greenhouse gas emissions reductions for waste management and producer responsibility legislation.	
Environmental Engineers/Consultants	• ICF International • HDR Engineering, Inc.
Recycling Equipment Manufacturers and Distributors	• CP Manufacturing This company has built more than 300 Material Recovery Facilities worldwide.
Compost Facilities	• Community Recycling & Resource Recovery Inc. (a.k.a. Crown Disposal) • California Biomass Inc. • Kellogg Supply • Las Virgenes Water District • Inland Empire Utilities Agency • Tierra Verde Industries • Agromin • Valley Compost & Topsoil • American Soil
Deconstruction, Construction and Demolition Debris Recyclers, and Building Material Reuse Facilities	Statewide data shows that there are 76 seventy-six construction and demolition debris recycling companies in Los Angeles and Orange Counties, including: • The ReUse People • Habitat for Humanity ReStores -There are seven locations in Southern California. • MarBorg Construction Recycling

Industry Growth in the Los Angeles Region

Although the TOP code of record (0303.00) is not perfectly reflective of the jobs that will be filled by the program graduates, EMSI data indicated that there will be 290 annual openings with a 4.5 percent growth in the next 3 years. Given the current economic climate, these projections are favorable especially when considered in conjunction with the other green workforce development and labor market data. EDD found that of all the Recycling Center operators in California, over half were in Southern California. According to the report, as of 2009:

- There are over 300 Recycling and Resource Management firms in the southern California region.
- The majority of these firms are small or medium sized businesses.
- The majority of recycling and resource management firms are non-public agencies.

The Los Angeles Economic Development Center (LAEDC), produced a report about the next decade of workforce in the Los Angeles area. According to that report, overall employment in the professional and business services sector is forecast to increase by 2.1 percent per year on average between 2010 and 2020, assisted by robust growth of the administrative, support and waste management industry during the post-recession recovery period of 7.4 percent in 2012 and 6.2 percent in 2013, and its continued strength through the forecast period (forecast period thru 2020). Additionally, nearly all LA County growth will be in the

service-providing sector, particularly in business and professional services "due to continued demand for advice on the implementation of new technologies and compliance with tax and environmental regulations".[9]

9. Employer Survey

For the creation of this program and application submission, Santa Monica College (SMC) has drawn from extensive research on the recycling and resource management industry. Additionally, SMC has conducted a survey of 15 local recycling and resource management employers, including landfill operators, recycling centers, and waste transfer facilities. The goal of the survey was to determine what Santa Monica's local employers were looking for in a qualified resource management employee. The survey process also served as an opportunity to develop partnerships between SMC and local employers. Approximately 30 percent expected to increase the number of employees, focusing primarily on entry-level positions. The expected increase ranged from 2 to 5. Most employers utilized on-the-job training as a method of educating their workforce. In an effort to create an industry-driven, targeted training program the California Works Alliance consortium is currently developing a national industry survey of over 100 recycling related employers. This survey is expected to be complete by June 2011, in time for integrating feedback into the certificate/AS program.

10. Explanation of Employer Relationship

Santa Monica College is currently pursing partnerships with local recycling and resource management employers in four ways. First, the Recycling and Resource Management curriculum was developed from the California Resource Recovery Associations' industry training. This model was developed by recycling and resource management experts who are leaders in the field from throughout the state. The CRRA training program was developed with the assistance of a grant from the U.S. Environmental Protection Agency. Second, we have engaged a large variety of industries in our Industry Advisory Board, which includes multi-level engagement from advisement and tours to internships and job placement. Third, the Industry Advisory Board will be essential in creating a thriving internship program that will allow students to actively explore the field and develop meaningful relationships with employers. Finally, Santa Monica College has relied heavily on industry experts throughout the curriculum development process. In fact, the recently approved courses in recycling and resource management were reviewed extensively by experts from across the nation at two recent conferences held in Santa Monica College and also at the Good Jobs, Green Jobs conference in Washington DC. As part of the Community Based Jobs Training (CBJT) grant objectives, efforts will be made to continue and engage national leaders in the field of recycling and resource management while developing a national certification standard. This feedback will be used to improve the Recycling and Resource Management program, which is poised to become a national model for recycling professionals.

11. List of Advisory Committee Members

1. Richard Anthony, President, Richard Anthony & Associates
2. Francisco Arzu, Community Organizer, LAANE
3. Dave Baldwin, Community Recycling
4. Peter Bares, Business Development Manager, Goodwill OC Document Destruction
5. Sue Beets, Corporate Sustainability Manager, SBM Management

[9] http://www.laedc.org/reports/consulting/2011_TheNextDecade.pdf (LAEDC- Los Angeles Economic Development Center) Prefaced with intro letter from Mayor, dated 2/14/11

6. Nicole Bernson, Councilman Greg Smith, City of Los Angeles
7. Tom Brady, Sr. Integrated Waste, City of Glendale
8. Mike Carey, Sustainability Coordinator, Orange Coast College Recycling Center
9. Doreen Chesebro, Director Mission Services, St. Joseph Health Systems
10. Suk Chong, Program Manager Smart Business Recycling Program, County of Los Angeles
11. James Conway, Sr. Environmental Analyst, City of Santa Monica
12. Rick Crandall, Director of Environmental Stewardship, So. Cal. Division, Albertsons
13. Greg Good, LAANE (Alternate)
14. Sue Gordon, VP Environmental & Public Affairs, Rainbow Disposal
15. Rochelle Groh, Recycling Coordinator, Rainbow Disposal (Alternate)
16. Stephen Groner, President, SGA, Inc.
17. Kreigh Hampel, Recycling Coordinator, City of Burbank
18. Vicky Herrera, Field Operations Manager, Interior Removal Specialist, Inc.
19. Timonie Hood, EPA Region 9
20. Rich Hubbard, Allan Company
21. Lizette Jimenez, Recycling Account Manager, Allan Company
22. Christine Knapp, Manager, OC Waste & Recycling
23. Michelle Leonard, VP National Practice Leader, Integrated Waste Planning, HDR, Inc.
24. Jo Licata, Hilton San Francisco
25. Richard Ludt, Waste Management Administrator, IRS Demo
26. Myles McGray, Destruction & Reuse Network
27. Brad Nelson, Program Manager, Southern California Edison
28. Susanne Passentino, Consolidated Disposal/Allied Waste
29. Marialyce Pedersen, Sr. Research & Content Development Rep., Disney
30. Andrew Rea, Principal & Creative Director, Andrew Rea Design ARD
31. Laura Rea, Marketing Director, President, Andrew Rea Design ARD
32. Eiko Risch, Director, EHC & Sustainability, Ricoh Electronics (Alternate)
33. John Sabol, VP Group Manager, Ricoh Electronics
34. Coby Skye, DPW, County of Los Angeles
35. Curt Smith, Manager, Vons A Safeway Company
36. Wes Thompson, Recycling Coordinator, City of Santa Monica
37. Cynthia Van Thul, Verifier, GHG Climate Team

38. Andrew Villasenor, Environmental Protection Specialist, EPA Region 9 (Alternate)
39. Eric Wilhite, VP of Supermarket Division, Community Recycling & Resource Recovery, Inc.
40. Paula Wise, Deconstruction & Reuse Network

12. Recommendations of Advisory Committee

- The program curriculum is expected to attract and train entry-level employees. However, in order to be competitive in the job market students must be strongly encouraged to participate in the internship portion of the program.
- Curriculum should focus on "real world examples" and be primarily project based learning. It is strongly recommended to limit the amount of online work. However, Advisory Board members did agree that a hybrid class would be effective and should be considered as the program expands.
- A useful skill for any graduate of a resource management program is to plan waste management systems from "scratch" in a variety of physical environments.
- Zero waste for communities is important from a government perspective. Government officials are "stuck in government thinking", this provides mobility and broadens bureaucratic perspective. It is recommended that program leaders reach out to municipal employees.
- Curriculum should remain flexible in meeting industry needs as more waste related regulations are implemented.
- Cost savings from recycling should be emphasized throughout the curriculum. Additional savings can be found by staying ahead of regulations, particularly with AB32.
- This program seems well suited to administrative positions that want to transition into environmental positions.
- Public relations and marketing should be emphasized within the curriculum, since recycling provides businesses with a competitive edge and increased marketability.
- Curriculum needs to include leadership and advocacy training.
- Hazardous wastes should be addressed in more detail.
- Program leaders are instructed to determine what the minimum qualifications are for the various resource management positions and use this information to create targeted student learning outcomes.
- Different types of materials and waste diversion practices should be addressed in all four courses.

Criteria C. Curriculum Standards

13. Display of Proposed Sequence

The core courses (RRM 1, RRM 2, RRM3, and RRM 4) are to be taken in one semester.

Proposed Course Sequencing in Recycling and Resource Management Certificate

Year One Fall Semester	Year One Spring Semester
RRM 1, Introduction to Recycling and Resource Management (3) RRM 2 Culture and Zero Waste (3) RRM 3, Resource Management and Zero Waste for Communities (3) RRM 4, Resource Management and Zero Waste in Business (3) Total: 12 units Students pursuing the A.S. degree can complete the general education requirements (42 units) as follows: Year One, semester 2 – 6 units GE Year One, intersession – 6 units GE Year Two, semester 1 – 15 units GE Year Two, semester 2 – 15 units GE	**Two of the following options:** Geog/Env 7, Introduction to Environmental Studies (3) Psych 40, Environmental Psychology (3) Poli Sci 22, Environmental Politics and Policies RRM 90, Recycling and Resource Management Internship (3) Total: 6 units

14. Transfer Applicability (if applicable)

N/A

Criteria D. Adequate Resources

15. Library and/or Learning Resources Plan

Santa Monica College librarians will work with faculty to insure the availability of class material to accommodate the needs of our students. We also have an extensive environmental resource library located at the Center for Environmental and Urban Studies.

16. Facilities and Equipment Plan

We will be accessing existing classrooms on campus. There are no additional equipment needs necessary. Additionally, SMC has a Vermitech system and a comprehensive campus recycling program already in place which complements our Zero Waste Events policy. Our Recycling Coordinator on campus is Madeline Brodie, who will be a valuable resource for this certificate program.

17. Financial Support Plan

The program will access funding from a variety of sources. Initially, for the first three years, funding will come from the Community-Based Job Training (CBJT) Department of Labor (DOL) grant. After that, the program will be primarily supported by general apportionment funds. Additionally, VTEA funding is available for advertising, Advisory Board committee development and curriculum development. CTE grants through the State Chancellor's Office will also be pursued.

18. Faculty Qualifications and Availability

Minimum qualifications for faculty members to teach the core courses of RRM 1 (*Introduction to Recycling and Resource Management),* RRM 2 (*Culture and Zero Waste),* RRM 3 (*Resource Management and Zero Waste for Communities)* and RRM 4 (*Resource Management and Zero Waste in Business)* includes a bachelor's degree in Environmental Technologies, Public Administration, or

similar field and a minimum of two years industry experience; or an Associate of Arts degree in the above-listed fields and a minimum of six years industry experience. Currently, there are qualified instructors at Santa Monica College.

Criteria E. Compliance

19. Based on model curriculum (if applicable)

Santa Monica College consulted with many regional and national curricula in developing our final RRM courses and Certificate of Achievement. Non-credit courses offered by California Resource Recovery Association (CRRA) were utilized to develop the four core classes (RRM 1, RRM 2, RRM 3, and RRM 4) for this certificate. The CRRA training program was developed with the assistance of a grant from the U.S. Environmental Protection Agency

20. Licensing and Accreditation Standards

This program prepares students to obtain jobs in the Recycling and Resource Management industry. No license is needed or required for entry-level positions.

21. Student Selection and Fees

During the first three years of this certificate, under the CBJT DOL grant, the student population recruited for this certificate will include the unemployed, dislocated, and incumbent workers. The students will self-select and standard fee structures will apply.

Application Date

California Community Colleges

APPLICATION FOR APPROVAL—NEW CREDIT PROGRAM

RECYCLING AND RESOURCE MANAGEMENT LEVEL I
PROPOSED PROGRAM TITLE

SANTA MONICA COLLEGE
COLLEGE

SANTA MONICA
DISTRICT

FALL 2011
PROJECTED PROGRAM START DATE

GEORGIA LORENZ
CONTACT PERSON

DEAN, ACADEMIC AFFAIRS
TITLE

310-434-4277
PHONE NUMBER

LORENZ_GEORGIA@_SMC.EDU
E-MAIL ADDRESS

GOAL(S) OF PROGRAM (CHECK ALL THAT APPLY):

X CAREER TECHNICAL EDUCATION (CTE) ☐ TRANSFER ☐ OTHER

TYPE OF PROGRAM (CHECK ALL THAT APPLY):

☐ A.A. DEGREE ☐ A.S. DEGREE X CERTIFICATE OF ACHIEVEMENT: 18+ semester (or 27+ quarter) units

X 12-18 semester (or 18-27 quarter) units

PLANNING SUMMARY

Recommended T.O.P. Code	0303.0	Estimated FTE Faculty Workload	0.5
Units for Degree Major or Area of Emphasis	12	Number of New Faculty Positions	None
Total Units for Degree	60	Est. Cost, New Equipment	N/A
Required Units-Certificate	12	Cost of New/Remodeled Facility	N/A
Projected Annual Completers	50	Est. Cost, Library Acquisitions	N/A
Projected Net Annual Labor Demand (CTE)	**290**	When will this program undergo review as part of college's Program Evaluation Plan?	Month/Semester **Fall** Year **2013**

3. Program Requirements

The Recycling and Resource Management Level I Certificate of Achievement can be obtained by taking 12 units with a grade of "C" or better in each of the 4 required Recycling and Resource Management core courses. Students will be encouraged to continue to the 18-unit, Level 2 Certificate of Achievement, which includes an industry-related internship. In addition, students may choose to expand into an Associate in Arts degree when students follow the Associate in Arts degree plan and complete and total of sixty semester units that include the general education requirements with the Recycling and Resource Management Certificate of Achievement area of emphasis.

RECYCLING AND RESOURCE MANAGEMENT CERTIFICATE OF ACHIEVEMENT
Required Courses (12 units)

RRM 1, Introduction to Recycling and Resource Management (3)
RRM 2, Culture and Zero Waste (3)
RRM 3, Resource Management and Zero Waste for Communities (3)
RRM 4, Resource Management and Zero Waste in Business (3)

DELPICCOLO_GUIDO

Subject: concerns and action regarding sb1440 tmc
Attachments: soc_tmc_datapg1.pdf; Major requirements for Sociology at 23 CSU_GUIDOv3.docx

From: OIFER_ERIC
Sent: Wednesday, March 09, 2011 12:48 PM
Subject: concerns and action regarding sb1440 tmc

Dear Colleague,

We are writing to you with two goals. One, we hope to explain our college's concern with the SB 1440 Transfer Model Curricula (TMC) that have been developed. Two, we are asking you to join us in calling for the modification of the existing TMCs and/or the development of alternative SB 1440 degrees, and to help ensure that future TMCs are more beneficial to students. As you may know, TMCs in Sociology, Communications and Psychology have been approved. This letter uses the TMC in Sociology to help exemplify our position.

For the purpose of explanation, we have provided an attachment to this email that contains two documents. The first document is the Approved TMC in Sociology. The second document charts the current lower division common major requirements for Sociology at the 23 CSUs. Looking at the second document, you will notice that the vast majority of CSUs require 2 or 3 courses and require that only 1 or 2 of those be Sociology courses. On the other hand, you will see that the Sociology TMC requires 6 courses and that 4 of those be Sociology courses.

We find the discrepancy between what is expected of students beginning at the CSU and what is expected of students beginning at a CCC who transfer to the CSU troubling because students beginning at the CCC who follow the finalized TMC's will be unnecessarily encumbered. We believe requirements for students pursuing the SB 1440 AA-T degrees should closely mirror lower division requirements for students who begin at the CSU. That approach will best serve students by ensuring that their pathways from a CCC to a CSU baccalaureate degree are smooth and efficient.

If you agree with us, we invite you to sign a letter to the ASCCC leadership and the Chancellor's office expressing these concerns and calling for the modification of the existing TMCs and/or the development of alternative SB 1440 degrees. If so, please let us know and we will include your name.

Sincerely,

Eric Oifer, President
Academic Senate
Santa Monica College

Janet Harclerode, President-elect
Academic Senate
Santa Monica College

Guido Davis Del Piccolo, Chair
Curriculum Committee
Santa Monica College

Estela Narrie, Articulation Officer
Santa Monica College

ARTICLE 4300 STUDENT PROGRESS AND GRADUATION
AR 4350 Graduation Requirements

Graduation Requirements

1. Petition for Graduation

A petition for graduation must be submitted for approval during the semester in which the student expects to complete the requirements for graduation.

Term	Filing periods
SPRING	Start of Spring semester through April 30th
SUMMER	Start of Summer term through July 31st
FALL	Start of Fall semester through December 1st

~~Deadlines for filing petitions are October 1 through December 1 for Fall; March 1 through May 1 for Spring; and July 1 through August 1 for Summer~~. Petitions are available on these dates in the Admissions Office or online through the Admissions website. Students who complete the requirements during the ~~Winter~~ winter session will graduate the following ~~Spring.~~ spring. Graduation from Santa Monica College with the Associate in Arts Degree ~~is granted upon~~ requires successful completion of 60 AA applicable units with a "C" (2.0) average. The requirements include the following: 1) California State general education requirements which include demonstrated proficiency in basic mathematical computation, reading comprehension, and written expression; 2) the major field; and 3) electives. At least 50% of the major field units required for the Associate in Arts Degree must be completed at Santa Monica College.

Credit Normally Allowed

1. Two Year College:

All AA applicable coursework that is completed ~~All **AA applicable (for Santa Monica College)** work taken in an~~ at a regionally accredited two-year college is normally allowed provided it meets SMC graduation guidelines. If a college is newly accredited, all work completed in that institution in the two years before its accreditation will be accepted.

2~~1~~. ~~Lower Division~~Four Year College:

All ~~lower division~~ course work completed ~~in an~~ at a regionally accredited four-year college, in University of California Extension, or in University of California correspondence courses is normally allowed. Such courses must be comparable to those offered in community colleges or the lower division of four-year schools. A maximum of 9 units (no more than 50% of the units required for the major) of upper division coursework completed at a regionally accredited four-year college or university may be applied toward the AA degree.

~~2~~3. Non-Designated

In a few cases, course numbers will not indicate whether courses are upper or lower division. In ~~t~~these cases, they must be judged in comparison with courses offered by most two-year schools. Basic skills English and mathematics courses are non-applicable to the AA degree. Graduate and professional level courses are non-applicable to the AA degree.

~~3~~4. Subject Credit ~~BIG DISCUSSION: Per Title 5 55063 and Title 5 55062 we **are** able to use upper division units. Please see legal opinion email from Stepanie Low (per Laurie's email) as documentation. Teresita has seen this and has no problem.~~

Although only 9 unit~~s of~~ credit are ~~is not~~ allowed for upper division courses, specific ~~general education~~ subject requirements toward the Associate in Arts Degree may be met by upper division courses comparable to the required lower division course~~. (FIX THIS LANGUAGE.)~~

~~5~~4.5 Detection of Quarters

Most transcripts are in terms of semester units; however, some colleges are on the quarter system. To convert quarter hours to semester units, divide the total number of quarter units by 1.5.

~~5~~6. Military Service Credit

a. Basic Service Credit: Service credit is used only when it is essential for the completion of 60 units for graduation and may be granted at the time of applying for graduation. Separation papers **(DD214)** indicating **dates of** entrance and ~~**?? honorable ??**~~separation ~~dates~~ must be on file **in the Admissions and Records Office**. ~~Normally, these are submitted at the time of making application for graduation.~~ The maximum military credit is ~~8~~ **~~eight (~~8~~)~~** units:

~~Four (4)~~ units for basic training and

4 units maximum for service time (based on ~~one~~ 1~~**(one)**~~ unit for each six months of service time)~~, with a maximum of four units.~~

~~(~~A six-month veteran is not eligible for military service credit.~~)~~

b. U.S.A.F.I.: Credit will be given for **United States Armed Forces Institute** (U.S.A.F.I.) courses toward graduation requirements in accordance with college administrative regulations, and the American Council on Education's Guide to the Evaluation of Educational Experience in the Armed Services recommendations. **A petition for USAFI credit must be filed with the Dean of Enrollment Services.** ~~through a petition to the Dean of Enrollment Services.~~

~~6~~7. Courses in Religion

It is the intent of Santa Monica College to avoid giving credit for courses that tend to negate the principle of separation of church and state. Granting of credit for courses taken in the general area of religion or theology involves an evaluation of both the accreditation

and the nonsectarian status of the institution offering the course. Once it is established that the course was nonsectarian in its general purpose and was taken at ~~an~~ a regionally accredited college or university institution, credit will be granted at Santa Monica College the same as for any other elective course.

~~7~~8. Credit for Advanced Placement Tests

Students may be allowed advanced credit ~~at the time of admissions~~ for ~~college entrance examination board advanced placement tests~~ **College Entrance Examination Board Advanced Placement Tests** with scores of ~~5, 4, or 3.~~ **3, 4, or 5**. Course credit will not be granted where it duplicates previous college ~~-~~**course** work. Acceptable AP tests are listed in the Santa Monica College catalog.

~~Advanced placement test credit will be allowed for the following courses:~~

~~Chemistry~~
~~English (scores of 4 and 5 only)~~ ~~DO THEY REALLY HAVE TO BE LISTED????~~
~~Foreign Language~~ ~~THERE ARE A LOT MORE.~~
~~History, American~~
~~History, European~~
~~Mathematics AB~~
~~Mathematics BC~~
~~Physics B~~
~~Physics C~~

~~8~~9. College Level Examination Credit (CLEP) and International Baccalaureate (IB) Exams

~~In addition to granting credit for advanced placement~~, Santa Monica College will give credit for CLEP and IB Exams in selected areas as listed in the Santa Monica College catalog. Course credit will not be granted where it duplicates previous college **course** work. A maximum of 30 units of credit may be allowed for CLEP examinations.----CANNOT FIND THIS IN THE CATALOG – Kiersten to consult Teresita~~.~~

~~9. Classes for Adults – NOT DONE IN AGES.~~

~~Credit for work in classes for adults will occasionally be allowed when the course is comparable in content and difficulty to a graded course. Conversion is made by allowing one unit for 34 hours of attendance credit. Grades earned in converted courses will be used in computing the grade point average. Permission for credit for classes for adults must be granted by petition to the Dean of Enrollment Services.~~

10. Supporting Documents

Whenever units are allowed or requirements have been met by work other than that taken at Santa Monica College, documents covering this must be made part of the student's file. These would include transfer transcripts, military service separation papers, ~~M.D.T.A.~~~~obsolete?~~ ~~recommendations,~~ foreign evaluations, ~~local and state government instructors reports, hygiene exemption documents,~~ etc.~~----hygeine exemption?~~

~~11. Manpower Development Training Act (M.D.T.A.) – NOT DONE IN AGES.~~

~~Santa Monica College allows a maximum of 30 units of elective credit upon the successful completion of an M.D.T.A. This credit is not allowed until after the student has~~

~~successfully completed other graduation requirements and at least 10 units of regular college work at Santa Monica College.~~

Accreditation

The lower division work (~~-~~**determined to be AA applicable by Santa Monica College)** of any institution ~~fully~~ regionally accredited as listed in the American Association of Collegiate Registrars and Admissions Officers' Transfer Credit Practices of Designated Educational Institutions, and the American Council on Education's Accredited Institutions of Post Secondary Education may be granted ~~full~~ credit. The college, by administrative regulations, may consider other institutions accredited for purposes of granting credit toward the A.A. degree.

1. Credit from non-regionally accredited schools

a. Before a record from a non-regionally accredited school or program is evaluated:

(1) The student must have earned at least 30 units in an accredited college, including 12 units in residence at Santa Monica College.

(2) The average of all grades in courses attempted must be at least a "C".

(3) The student must file a written petition for credit indicating what credit is desired for the work done in the non-regionally accredited program.

(4) The Admissions Office must have on file a transcript of ~~a record~~ **the course work** from the non-regionally accredited institution showing subjects, grades, units, and, if necessary, the length and content of the courses. **The length and content of the course may also be required.**

b. Credit will be limited to courses in which the student received a grade of "C" or better. Grades and grade points will not be figured in the **computation of the** grade point average~~computation~~.

c. The total credit for ~~special schools~~ (non-regionally accredited) work will be limited to ~~15~~ 9 units.

d. Exception: A registered nurse, who has a current California nursing license, may be granted 30 units of college credit, ~~providing he or she has met the following criteria~~ **in the following circumstances:**

(1) ~~Successfully met all other graduation requirements; Successfully completed 30 units of regular college work. Has met the residence requirement.~~ **All other graduation requirements have been met; the student has successfully completed 30 units of regular college work; and the student has met the residence requirement.**

(2) Credit given to the student for his or her previous registered nursing schooling will meet the major requirement.

(3) Credit will be listed on the transcript by subject field and units allowed.

(4) If work in the non-regionally accredited school appears to duplicate that completed in an accredited school, a reduction of credit will be made.

(5) Credit will not be granted for private, non-regionally accredited correspondence courses.

(6) Records from schools that are not fully accredited will be reviewed by the Dean of Enrollment Services. Some may qualify on the same basis as fully accredited schools.

2. Transfer Credit from Foreign Institutions

a. All course work from foreign institutions must be evaluated by an approved agency in the United States that evaluates foreign credentials and transcripts.

b. After evaluation by an approved agency, all requests for transfer credit from foreign institutions will be reviewed by the Admissions Office.

c. Each student must submit his/her own records.

d. There is no limitation on transfer credit from approved foreign educational institutions.

e. Questions on major course equivalencies will be determined ~~in~~ **by** consultation ~~with~~ **between** the Dean of Enrollment Services and the appropriate department chair.

f. The English composition requirement must be satisfied at ~~an~~ a regionally accredited American college or university.

g. A minimum of 12 units in residence at Santa Monica College is required for the Associate in Arts degree.

Reference: Education Code Sections 78204, 78205

California State University: General Education Requirements----this section superseded by current CSU GE certification????

~~1. In accordance with provisions of the California Administration Code Santa Monica College has established and will certify either the full or partial completion of the "General Education" requirements for the Baccalaureate Degree at all campuses of the California State University. Eligibility for the "Pre-Summer 1981" and the "Summer 1981 and Thereafter"~~

~~General Education Plans~~

~~Students who are enrolled at Santa Monica College or another accredited school of higher learning during or before the 1980-81 academic year and have been in attendance at least one semester or two quarters in each year thereafter, may follow either the "Pre-Summer of 1981" or the "Summer of 1981 and Thereafter" general education patterns listed in "A" or "B". Students who enrolled at Santa Monica College or another accredited school of higher learning during or after the summer session of 1981 must follow the "Summer of 1981 and Thereafter" general education pattern listed in "B".~~

~~A. "Pre-Summer 1981" General Education Requirements~~

~~(1) Course requirements are divided into four areas:~~

~~a. Natural Science~~

~~b. Social Science~~

~~c. Humanities~~

~~d. Basic Subjects~~

~~Each student must complete two or three courses in each area with a total of at least 35 units in the four areas. Certain other requirements and electives must be taken to total at least 40 units.~~

~~(2) Methods of Certification~~

~~After analysis by the Admissions Office, a small label will be attached to the student's transcript. This label will indicate which of the four areas have been completed and the total number of general education units earned.~~

~~(3) Partial Certification~~

~~The Santa Monica College Admissions Office will certify the completion of one~~

or more areas of the requirements. At least 35 units in the four areas are required in order to certify all areas. No certification is possible for individual course or groups of courses that fail to complete the requirements of one of the areas. Students with partial certification from Santa Monica College should complete their general education pattern by meeting the requirements of the specific state university to which they intend to transfer.

(4) Additional Requirements
Some campuses of the CSU system may require more than 40 units in the general education pattern. Consult CSU catalogs for possible additional requirement.
Reference: Title 5, Section 40405

B. "Summer of 1981 and Thereafter" General Education Requirements

(1) Course requirements are divided into six areas.
a. Communication in the English Language
b. Physical Universe and Life Forms
c. Arts, Literature, Philosophy and Foreign Language
d. Social, Political, and Economic Institutions
e. Understanding and Self-Development
f. American History and Institutions
Each student must complete two to four courses in each area. A maximum of 39 units may be certified.

(2) Methods of Certification
After analysis by the Admissions Office, a small label will be attached to the student's transcript. This label will indicate which of the six areas have been completed and the total number of general education units earned.

(3) Additional Requirements
Nine additional upper division units are required at the CSU campus in order to complete general education units. Some campuses may impose other unit requirements in addition to the nine mentioned. Consult CSU catalogs for possible additional requirements.

Reference: Title 5, Section 55802, 55808, 55809
Reviewed and/or Updated: 4/29/2003, 7/22/08