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

CURRICULUM COMMITTEE ❙ AGENDA

Wednesday, March 5, 2014 ❙ 3:00 p.m.
Loft Conference Room – Drescher Hall 300-E

Members:

Guido Davis Del Piccolo, *Chair*	Ida Danzey	Randal Lawson	James Pacchioli
Georgia Lorenz, *Vice Chair*	Sandra Hutchinson	Helen LeDonne	Elaine Roque
Garet Abrams	Maral Hyeler	Karen Legg	Jeffery Shimizu
Brenda Antrim	Josh Kanin	Walt Louie	David Shirinyan
Teri Bernstein	Hasun Khan	Walter Meyer	Toni Trives
Sang Chi	William Konya	Estela Narrie	Alex Van Dertol

Interested Parties:

Jamey Anderson	Jonathan Cohanne	Mona Martin	Linda Sinclair
Maria Bonin	Kiersten Elliott	Steven Myrow	Madeleine Sundberg
Patricia Burson	Tina Fleming	Katharine Muller	Sal Veas
		Robin Ramsdell	Chris Young

Ex-Officio Members:

Eve Adler	Ty Moura

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

IV. Chair's report:

V. Information items:

(Course Updates)

1. ASTRON 1: Stellar Astronomy
2. FILM 32: Advanced Digital Filmmaking
3. FILM 33: Directing The Short Film

(SLO Updates)

4. PHOTO 1: Introduction To Photography
5. PHOTO 2: Basic Photography Lab Techniques
6. PHOTO 30: Techniques of Lighting: Introduction
7. PHOTO 31: Photographing People: Introduction
8. PHOTO 32: Lighting for People 2
9. PHOTO 33: Techniques of Lighting: Product
10. PHOTO 37: Advanced Black And White Printing Technique

**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.*

11. PHOTO 39: Beginning Photoshop
12. PHOTO 40: Digital Capture
13. PHOTO 5: Digital Asset Management, Modification, & Output
14. PHOTO 50: Basic Color Printing
15. PHOTO 52: History of Photography

VI. Action items:

(Consent Agenda)

a. Enforcement of ANATMY 1: Human Anatomy and PHYS 3: Human Physiology as prerequisites for NURSNG 17: Pharmacological Aspects of Nursing……5

(New Courses)

b. ASTRON 8: Introduction to Astrophysics……25
c. ASTRON 9: Intermediate Astrophysics with Calculus……..35
d. CS 83R: Server-Side Ruby Web Programming……..46
e. FILM 32L: Advanced Digital Filmmaking Lab……..60
f. FILM 33L: Directing the Short Film Lab……64
g. FILM 50: Production Sound……....68
h. KIN PE 14C: Advanced Cross Country……74

(Distance Education)

i. ASTRON 1: Stellar Astronomy……78
j. CS 83R: Server-Side Ruby Web Programming……50

(New Degree)

k. Film Production: Associate in Science (AS) and Certificate of Achievement……...85

VII. New Business:

16. Assessment Best Practices……87
17. Academic Senate Bylaw Revision for Curriculum Committee……..88

VIII. 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.

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

CURRICULUM COMMITTEE ❙ MINUTES

Wednesday, December 4, 2013 ❙ 3:00 p.m.
Loft Conference Room – Drescher Hall 300-E

Members Present:

Guido Davis Del Piccolo, *Chair*	Sandra Hutchinson	Karen Legg	Elaine Roque
Georgia Lorenz, *Vice Chair*	Maral Hyeler	Walt Louie	Jeffery Shimizu
Teri Bernstein	Josh Kanin	Walter Meyer	Gary Taka
Sang Chi	Randal Lawson	Estela Narrie	Toni Trives
Ida Danzey	Helen LeDonne	James Pacchioli	Alex Van Dertol

Members Absent:

Brenda Antrim	Hasun Khan	David Shirinyan

M I N U T E S

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

I. Call to order:
The meeting was called to order at 3:08pm.

II. Public Comments*:
None.

III. Approval of Minutes:
The minutes of November 20, 2013 were approved as presented.

IV. Chair's report:
- On December 3, 2013, the Academic Senate approved all the items approved by the Curriculum Committee on November 20.
- The Student Affairs Committee accepted the recommendations of the Curriculum Committee on the proposed revision to Administrative Regulation 4111.6 – Transfer Credit from Foreign Institutions, with the exception of changing "Department Chair (or designee)" in no. 4 to "Department."
- The Chair acknowledged Gary Taka for his six-plus years of service on the Committee, Taka is retiring from the Committee and the College.

V. Action Items:
- Cosm 95A-D were mistakenly listed under "New Courses." They were moved to "Consent Agenda" because they represent a course name change and course revisions to Cosm 29, 39, 49, 59.

Consent Agenda:

1. **COSM 95A Salon Experience** – Course Name change from Cosm 29 to Cosm 95A; course revision. Presented by Georgia Lorenz.
2. **COSM 95B Salon Experience**– Course Name change from Cosm 39 to Cosm 95B; course revision. Presented by Georgia Lorenz.
3. **COSM 95C Salon Experience**– Course Name change from Cosm 49 to Cosm 95C; course revision. Presented by Georgia Lorenz.

**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.*

4. **COSM 95D Salon Experience**– Course Name change from Cosm 59 to Cosm 95D; course revision. Presented by Georgia Lorenz.

   Motion Made by: Randal Lawson **Seconded by:** Elaine Roque
   The motion passed unanimously.

New Courses:

5. **KIN PE 14B Intermediate Cross Country –** presented by Elaine Roque.
   Karen Gunn moved to approve KIN PE 14B with the following changes to be made:
   - A new rationale to be provided
   - Current NCAA Rulebook to be added to the list of textbooks.

   Motion Made by: Karen Legg **Seconded by:** Maral Hyeler
   The motion passed unanimously.

VI. Adjournment:
The meeting was adjourned at 3:41pm

NOTE TO CURRICULUM COMMITTEE: On 5/15/2013 the Curriculum Committee Approved the prerequisites of Anatomy 1 and Physiology 3 for Nursing 17. This action was taken based on a preliminary analysis of data from Institutional Research. Upon further questioning, the preliminary nature of that study was discovered and thus a more extensive study was done. The new study is attached.

The current status of these prerequisites is that they are in the schedule of classes, but are not computer enforced. If the Committee approves these prerequisites again (taking into account the new study), then they will be computer enforced in the future.

Below are the course outline of record for Nursing 17, the two prerequisite worksheets, and the new study from Institutional Research.

NURSING 17, Pharmacological Aspects Of Nursing

Course Title:	Pharmacological Aspects Of Nursing			Units:	3
Total Instructional Hours (usually 18 per unit):	54				
Hours per week (full semester equivalent) in Lecture:	3	In-Class Lab:	0	Arranged:	0

Date Submitted:	May 2011
Date Updated:	June 2012
Transferability:	Transfers to CSU
IGETC Area:	Does NOT satisfy any area of IGETC:
CSU GE Area:	Does NOT satisfy any area of CSU GE:
SMC GE Area:	Does NOT satisfy any area of SMC GE:
Degree Applicability:	Credit - Degree Applicable
Prerequisite(s):	ANATMY 1 and PHYS 3
Pre/Corequisite(s):	None
Corequisite(s):	None
Skills Advisory(s):	None

I. Catalog Description

This as an introductory course in pharmacology designed to enable the student to recognize the various classes of drugs used in modern medicine. It includes a brief review of anatomy and physiology, how drugs exert their effects, the major indication for drug use, routes of administration, expected and adverse drug effects, precautions and contraindications. Emphasis is on prescription drugs, but over the counter medications are also included.

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. Pharmacology: An Introduction, 6th, Hitner, H. & Nagle,B, McGraw-Hill © 2012, ISBN: 0-07-352086-1
2. Friedman, M., Course Medication Drug List (this can be printed from an on-line web site).

III. Course Objectives

Upon completion of this course, the student will be able to:

1. Describe the appropriate indications and route of administration for the most common medications prescribed.
2. Describe potential side effects/adverse reactions of common medications, and the appropriate procedure for reporting these effects.
3. Assess factors that contribute to required changes to the common doses of medications.
4. Describe the various drug classifications for the most common medications prescribed.
5. Describe monitoring parameters utilized with medication therapy.
6. Describe the process medication manufactures utilized to obtain approval to market a medication.
7. Describe the differences between trade and generic names of medications.
8. Describe the various schedules of controlled substances, and describe the procedures utilized to assure diversion does not take place.
9. Differentiate the various branches of pharmacology: pharmacokinetics, pharmacotherapy, and toxicology.
10. Define the differences of prescription, nonprescription, controlled, and recreational drugs.
11. Describe the various different oral formulations of medications.
12. Describe how drug dosage forms and routes of administration affect drug absorption.
13. Describe the effect protein binding has on drug interactions.
14. Explain the significance drug half life has on the dosing schedule of a medication.
15. Compare the actions of agonist and antagonist medications.
16. Differentiate between drug potency and drug efficacy.
17. Describe the significance of a drug?s therapeutic index.
18. Describe the effects various disease states have on a patient?s response to medication therapy.
19. Describe how age, genetics, and sex affect a patient?s response to medication therapy.
20. Explain how incompatibilities among parenteral drugs can alter a drug?s pharmacologic activity.
21. Describe the difference between side effect and adverse effect.
22. Describe the process of developing a hypersensitivity reaction.
23. Identify critical components in obtaining a patient?s medication history.
24. Explain how to evaluate therapeutic effects, adverse drug reactions, drug interactions, patient teaching, and patient compliance.
25. Describe the five ?rights? associated with medication administration.
26. Differentiate among the various techniques of administering a parenteral medication.

IV. Methods of Presentation:

Lecture and Discussion

V. Course Content

% of course	Topic
4%	Orientation to Drugs
4%	Interaction of Drugs and Body Tissues
3%	Toxic Effects of Drugs and Chemicals

3%	Drug Abuse, Dependence, and Addiction
3%	Administration of Drugs
2%	Sedative/Hypnotics and Anti-Anxiety Agents
3%	Drugs Used in the Management of Mental Illness
1%	Alcohol and Alcoholism Management
2%	Psychomotor and Other Stimulants of the Central Nervous System
1%	Centrally Acting Skeletal Muscle Relaxants
2%	Drugs for Treating Parkinsons Disease
2%	Drugs for Treating Epilepsy
3%	Narcotic Analgesics and Antagonists
3%	Analgesics/Antipyretics
3%	Drugs Used in the Management of Inflammatory Disorders and Headaches
6%	Pharmacology of the Autonomic Nervous System
3%	Diuretics
3%	Treatment of Hypertension
3%	Treatment of Heart Failure
2%	Anti-Arrhythmic Drugs
3%	Drugs Used in Coronary Heart Disease
2%	Drugs for Reducing Elevated Plasma Lipids
3%	Drugs that Affect Blood Coagulation
3%	Drugs Treating Anemias
2%	Hypothalamic and Pituitary Gland Hormones
2%	Adrenocorticosteroids
2%	Female Sex Hormones
1%	Male Sex Hormones and Anabolic Agents
3%	Thyroid Therapy
3%	Treatment of Diabetes Mellitus
9%	Anti-Infective Therapy
3%	Antineoplastic Agents for Cancer Chemotherapy
3%	Treatment of Allergies

2%	Treatment of Respiratory Diseases
3%	Drugs Acting on the Digestive System
100%	Total

VI. Methods of Evaluation: (Actual point distribution will vary from instructor to instructor but approximate values are shown.)

Percentage	Evaluation Method
45 %	Exams/Tests
33 %	Quizzes
22 %	Written assignments
100 %	Total

VII. Sample Assignments:

1. We have reviewed several drug classes that are considered controlled substances. Discuss which drug class appears to you to have the greatest potential for abuse and the reason for their abuse.
2. Narcotics have several uses in addition to analgesia. Discuss the addiction potential for these agents when used for analgesia, antitussive, and antidiarrheal.

VIII. Student Learning Outcomes

1. Recognize the various classes of drugs used in modern medicine. Assessed by: Score of 75% or greater on the objective exams and quizzes
2. After review of anatomy and physiology, understand how drugs exert their effects, the major indication for drug use, routes of administration, expected and adverse drug effects, precautions and contraindications. As assessed by: Score of 75% or greater on the objective exams and quizzes.

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

Nursing 17: Pharmacological Aspects Of Nursing
Prerequisite: Anatomy 1: Human Anatomy

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.

x	Type 6:	Recency and other measures of readiness (miscellaneous)

Prerequisite Worksheet

ENTRANCE SKILLS FOR (Nursing 17: Pharmacologic Aspects of Nursing)

A)	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.
B)	Describe the structures, interrelationships and general functions of major structures, organs, and organ systems of the human body.
C)	Correlate concepts of microscopic structure, macroscopic structure, and functions to the whole human body.
D)	Use surface features of the human body as landmarks to identify and evaluate underlying structures.

EXIT SKILLS FOR (Anatomy 1: Human Anatomy)

1.	Clearly focus materials of a variety of sizes, thicknesses, and densities under a microscope.
2.	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.
3.	Describe the structures, interrelationships and general functions of major structures, organs, and organ systems of the human body.
4.	Demonstrate skills in observation, investigation and discovery using biological materials.
5.	Correlate concepts of microscopic structure, macroscopic structure, and functions to the whole human body.
6.	Exhibit manual dexterity in dissection and prepare clear dissections.
7.	Use surface features of the human body as landmarks to identify and evaluate underlying structures.

	ENTRANCE SKILLS FOR (Nursing 17: Pharmacologic Aspects of Nursing)										
EXIT SKILLS FOR (Anatomy 1: Human Anatomy)		A	B	C	D	E	F	G	H	I	J
	1										
	2	x									
	3		x								
	4										
	5			x							
	6										
	7				x						
	8										
	9										
	10										

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

Nursing 17: Pharmacologic Aspects of Nursing
Prerequisite: Physiology 3: Human Physiology

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.

x	Type 6:	Recency and other measures of readiness (miscellaneous)

Prerequisite Worksheet

ENTRANCE SKILLS FOR (enter course for which the prerequisite is proposed)

A)	Explain the major concepts of the cell including structure, function, and processes.
B)	Explain the major concepts of the cell and membrane physiology including membrane transport and cell communication.
C)	Explain the functional interrelationships of tissues, organs and organ systems of the human body within the framework of homeostasis.
D)	Apply physiological concepts to issues of human health and common pathologies.
E)	Understand and apply principles of the scientific process to physiological problems.
F)	Analyze experimental data while demonstrating logical and critical thinking skills.

EXIT SKILLS FOR (Physiology 3: Human Physiology)

1.	Explain the major concepts of the cell including structure, function, and processes.
2.	Explain the major concepts of the cell and membrane physiology including membrane transport and cell communication.
3.	Explain the functional interrelationships of tissues, organs and organ systems of the human body within the framework of homeostasis.
4.	Apply physiological concepts to issues of human health and common pathologies.
5.	Effectively use and apply lab techniques, methods and equipment related to the fields of physiology.
6.	Understand and apply principles of the scientific process to physiological problems.
7.	Conduct experiments and record and display data appropriately.
8.	Analyze experimental data while demonstrating logical and critical thinking skills.
9.	Compose appropriate scientific reports.
10.	Use basic computer technology in the field of physiology.

	ENTRANCE SKILLS FOR (Nursing 17: Pharmacologic Aspects of Nursing)										
EXIT SKILLS FOR Physiology 3: Human Physiology		A	B	C	D	E	F	G	H	I	J
	1	x									
	2		x								
	3			x							
	4				x						
	5										
	6					x					
	7										
	8						x				
	9										
	10										

NURSING COURSE PREREQUISITE VALIDATION: REPORT OF THE FINDINGS

Santa Monica College
Office of Institutional Research
Daniel Berumen, Research Analyst, Institutional Research
Ani Aharonian, Research Analyst, Institutional Research
Hannah Lawler, Dean, Institutional Research

November 2013

Background

In fall of 2013, the Santa Monica College Curriculum Committee temporarily approved two course prerequisites, ANATMY 1 (General Human Anatomy) and PHYS 3 (Human Physiology), for NURSING 17 (Pharmacological Aspects of Nursing) based on the results of a course content analysis. The final approval depends on a statistical evidence supporting the need for the course prerequisites for successful completion of the target course (NURSNG 17). The current report summarizes the findings of the statistical analyses conducted to validate the two course prerequisites on NURSNG 17.

Currently, California Community College (1998) Matriculation Regulations require that in order to implement a mandatory prerequisite requirement on a course, a relationship between the course and its prospective prerequisite be established. Statistical validity, the second method of prerequisite validation, is the use of empirical data to evaluate whether the prerequisite is necessary for success in the outcome course and whether students without the prerequisite are highly unlikely to earn a satisfactory grade in the course. "Highly unlikely" is undefined except through the three standard research analyses recommended in "Good Practice for the Implementation of Prerequisites" (ASCCC)[1].

The following table describes the three research methods and minimum standards for evidence outlined by the ASCCC in the evaluation of the relationship between the prerequisite and success in the outcome course. While a logistic regression analysis is not one of the three methods outlined by the ASCCC, this analysis has been used previously at SMC in order to evaluate the relationship between the prerequisite and the outline course.

Table 1. Methods of validating course prerequisites

Research Method	Description	Criterion for Evidence
Net Increase in Accuracy	Applying the prerequisite should show a gain in the percentage of students who are successful in the outcome course	Increase of at least 10% in course success rate
2x2 Matrix & Chi-Square	A 2x2 matrix of outcomes in the course (success, non-success) and prerequisite status (met the prerequisite, did not meet the prerequisite) and chi-square to determine where a systematic and statistically significant relationship exists between the variables	The percentage of students who meet the prerequisite and are successful in the outcome course should be statistically larger than expected
Correlation Coefficient	Analysis to determine the strength of the relationship between performance in the prerequisite and outcome courses	A minimum of +0.35
Logistic Regression	Predictive analysis to determine whether prerequisite status predicts performance in the outcome course.	Prerequisite status contributes statistically significant predictive value.

SOURCE: Academic Senate for California Community Colleges (1997). *Good Practice for the Implementation of Prerequisites.* Sacramento, CA: Chancellor's Office.

[1] An updated guide created by the RP Group is available now: http://www.rpgroup.org/sites/default/files/RPGroupPreqreqGuidelinesFNL.pdf

COHORT

The purpose of the current study is to provide the results of a statistical analysis completed to investigate the relationship between successful course completion of ANAT 1 and/or PHYS 3 on success in NURSNG 17. The cohort consists of students who first enrolled in NURSNG 17 between fall 2010 and spring 2013. Only students' first attempts were included in the analyses to account for the potential effects of course repetition on successful course completion. Additionally, students who were identified as having previously attained an Associate's or Bachelor's degree were removed from the cohort. While the college's data includes overall units enrolled at other institutions, it does not identify which courses students completed. Students with completed degrees are more likely to have completed a Biological Sciences requirement that may include an Anatomy or Physiology course.

The following table contains the count of the NURSNG 17 cohort by course prerequisite status. Course success is identified as having completed a course with a grade of A, B, C or P.

Table 2. NURSNG 17 Cohort

	Count	Percent of Cohort	Successfully Completed NURSNG 17	Success Rate
NURSNG 17 Cohort	385	100.0%	207	53.8%
Completed ANAT 1 prior to enrollment	204	53.0%	144	70.6%
Completed PHYS 3 prior to enrollment	167	43.4%	124	74.3%
Completed both ANAT 1 and PHYS 3 prior to enrollment	159	41.3%	120	75.5%

There were 385 students included in the cohort, of whom 207 received an A, B, C or P in the course. Of the 385, 204 (53%) completed ANAT 1 prior to enrollment, and 167 (43.4%) completed PHYS 3 prior to enrollment. The final row, contains the percentage of students (41.3%) that completed both courses prior to enrollment in NURSNG 17. The success rates in NURSNG 17 were higher for students who completed either one or both of the suggested prerequisite courses when compared with the overall NURSNG 17 successful course completion rate

The table below contains the count of successful students who did not successfully complete the prerequisite courses.

Table 3. NURSNG 17 students who did not meet any prerequisite

	Successfully Completed NURSNG 17	Percent of all successful enrollments
Total NURSNG 17 Students	207	100.0%
Did not successfully complete ANAT 1 prior to enrollment.	63	30.4%
Did not successfully complete PHYS 3 prior to enrollment.	83	40.1%
Did not successfully complete both ANAT 1 and PHYS 3 prior to enrollment.	87	42.0%

Based on the data available, about 30% of the students who were successful in NURSNG 17 would not have been able to enroll in the course if an ANAT 1 prerequisite was in place. About 40% of the total number of successful students would not have been able to enroll if there was a PHYS 3 prerequisite. Some caution should be taken when interpreting the data since students may have completed ANAT 1 or PHYS 3 at another institution.

DATA ANALYSES AND FINDINGS

The following section describes the findings of the research analyses for validation of course prerequisites listed in Table 1.

Net Increase in Accuracy

According to the ASCCC (1997), if by applying the prerequisite, the success rate in the outcome course increases by at least 10%, there is enough empirical evidence to support the need for the prerequisite.

Table 4 contains the overall course success rates and the rates after each of the proposed prerequisites are applied to the cohort. Success rates were calculated by dividing the total number of satisfactory grades (A, B, C, or P) by the total course enrollment (A, B, C, P, D, F, I, NP, DR and W grades).

Table 4. Net increase in accuracy

	Success Rate	Net Increase
NURSNG 17 Cohort	53.8%	0.0%
Completed ANAT 1 prior to enrollment	70.6%	+16.8%
Completed PHYS 3 prior to enrollment	74.3%	+20.5%
Completed both ANAT 1 and PHYS 3 prior to enrollment	75.5%	+21.7%

Prior to applying the prerequisite, the overall course success rate for NURSNG 17 was 53.8%. In each of the three scenarios, the success rate increases by at least 10%. ***Adding either an ANAT 1 or PHYS 3 prerequisite, or a combination of the two, meets the net increase in accuracy threshold.***

2x2 Matrixes of Outcomes and Prerequisite Status: Chi-Square Analysis

Two by two matrices comparing success and non-successful completion for students with and without the prerequisite were constructed. According to Pascarella and Terenzini (2005), while some students withdraw from courses for academic reasons, many withdraw for personal reasons such as job change and family responsibilities. Because information related to the reasons students withdraw are not available, 'W' or withdrawal grades were excluded from the success variable. Unlike the net increase in accuracy analysis, the successful course completion rate was calculated by dividing the number of A, B, C, and P grades by the total number of A, B, C, D, F, P, and NP grades (W's were excluded in the denominator).

A Pearson chi-square statistic was obtained to determine whether prerequisite status and outcome course success are statistically related to one another. In cases where a statistically significant

relationship was found, standardized residuals were computed to determine which cells in the matrices were the major contributors to the significant chi-square test statistic.

Table 5. 2X 2 Table for ANAT 1 Prerequisite

NURSNG 17 Outcome	ANAT 1 Prerequisite Status	
	No	Yes
Successful (A, B, C, CR)	63 **64.9%** STD RES = -1.9	144 **92.9%** STD RES = +1.5
Non-successful (D, F, NC, I)	34 **35.1%** STD RES = +4.0	11 **7.1%** STD RES = -3.2

Chi Square = 31.786, p = .000, n =252

Table 6. 2X 2 Table for PHYS 3 Prerequisite

NURSNG 17 Outcome	PHYS 3 Prerequisite Status	
	No	Yes
Successful (A, B, C, CR)	83 **70.3%** STD RES = -1.4	124 **92.5%** STD RES = +1.3
Non-successful (D, F, NC, I)	35 **29.7%** STD RES = +3.0	10 **7.5%** STD RES = -2.8

Chi Square = 21.079, p = .000, n =252

Table 7. 2X 2 Table for ANAT 1 and PHYS 3 Prerequisite

NURSNG 17 Outcome	ANAT 1 and PHYS 3 Prerequisite Status	
	No	Yes
Successful (A, B, C, CR)	87 **70.7%** STD RES = -1.4	120 **93.0%** STD RES = +1.4
Non-successful (D, F, NC, I)	36 **29.3%** STD RES = +3.0	9 **7.0%** STD RES = -2.9

Chi Square = 21.33, p = .000, n =252

The percentage of students who were successful in NURSNG 17 significantly differed by whether they met just the ANAT 1 prerequisite, just the PHYS 3 prerequisite or if they met both prior to enrollment. In all three tables, disproportionately more students who met the prerequisite were successful in NURSNG 17 than expected by chance variation. In addition, disproportionately more students who did not meet the prerequisite were not successful than expected by chance.

All cells contributed to the significance of the chi-square statistic. There were disproportionately more students in the yes prerequisite/successful and no prerequisite/unsuccessful cells than expected. In addition, there were disproportionately fewer students in the no prerequisite/successful and yes

prerequisite/unsuccessful cells than expected. ***The 2x2 matrix and chi-square analysis supports the establishment of ANAT 1, PHYS 3 or both as a prerequisite for NURSNG 17.***

Correlational Analyses

Correlation coefficients were computed to establish whether a relationship existed and to determine the strength of the relationship between performances in ANAT 1 or PHYS 3 and NURSNG 17. A Pearson correlation was computed for grades in the prerequisite course and NURSNG 17 where an A=4, B=3, C=2, D=1, and F=0.

Table 8. Correlation Coefficients

	Count	Correlation Coefficient	Significance Level
ANAT 1	153	+ .244	$p<.01$
PHYS 3	132	+ .481	$p<.001$

Table 8 provides the correlation coefficients for NURSNG 17 outcomes. A significance level at or below the .05 level indicates a statistically significant relationship between performance in the prerequisite course, and performance in the outcome course. The ASCCC (1997) recommends a minimum correlation of +0.35 as evidence for prerequisite course validation.

The correlation analyses found a positive and significant relationship between grades in ANAT 1 and PHYS 3 and NURSNG 17. Therefore, students who earn high grades in ANAT 1 or PHYS 3 also earn high grades in NURSNG 17. While a significant relationship was observed between ANAT 1 and NURSNG 17, the strength of the relationships does not meet the minimum threshold recommended by the State Academic Senate. ***The correlational analyses show that only PHYS 3 meets the threshold to be included as a prerequisite course for NURSNG 17.***

Logistic Regression Analyses

A logistic regression analyses was employed to test the predictive value of prerequisite status on course performance in NURSNG 17. Success in NURSNG 17 was coded as a categorical value wherein a grade of A, B , C, or P was considered success, and non-success included all D, F, NP, I grades (W grades were removed). In this model the two independent variables were whether students completed ANAT 1 prior to enrollment (yes or no) and whether students completed PHYS 3 prior to enrollment (yes or no).

Table 9. Logistic Regression Summary

	Odds Units Change	Significance
Completed ANAT 1 prior to enrollment	1.017	p = .004
Completed PHYS 3 prior to enrollment	1.004	p = .567

The data revealed that the overall model (completed ANAT 1, completed PHYS 3) significantly predicted[2] whether students successfully completed NURSNG 17.

In the model, completing ANAT 1 significantly predicted success in NURSNG 17, while PHYS 3 did not. A closer look at the data reveled problems with multicollinearity. The two variables are significantly related (.761, p < .001), which can mean that when completing ANAT 1 is included in the model, completing PHYS 3 does not add enough to be significant (p = .567). When PHYS 3 is included as the only independent variable, the results show that it significantly[3] predicts success in NURSNG 17.

Disproportionate Impact Analyses

Title 5 regulations require that an evaluation be conducted to determine whether implementation of a course prerequisite will have a disproportionate impact "on particular groups of students described in terms of race, ethnicity, gender, age or disability, as defined by the Chancellor" (Section 55201[e][2][b]). Although Title 5 does not contain a specific definition of "disproportionate impact", the ASCCC advise that the standard used by the Equal Employment Opportunity Commission be applied.

Under this standard, disproportionate impact occurs if the selection rate for a particular group is less than 4/5ths or 80% of the selection rate for the group with the highest selection rate. Selection rate is calculated by dividing the number of students in a group who meet the prerequisite by the total number of students in the group.

The tables below contain the percentage of students in the cohort by gender and ethnicity.

Table 10. Count of Students by Gender

Gender	Count	Percent
Female	314	81.6%
Male	71	18.4%
NURSNG 17 Cohort Total	**385**	**100%**

Table 11. Count of Students by Ethnicity

Ethnicity	Count	Percent
Asian/Pacific Islander	65	16.9%
Black	25	6.5%
Hispanic	118	30.6%
Native American	1	0.3%
Two or more	8	2.1%
White	106	27.5%
Unknown	62	16.1%
NURSNG 17 Cohort Total	**385**	**100%**

[2] x^2=31.74, *df* = 2, *N* = 252, *p*<.001
[3] *Odds unit change = 1.017, p < .001*

A study was conducted examining whether establishing either prerequisite would have an adverse impact on specific gender and ethnicity groups.

GENDER

Table 12. Selection rates by Gender

Met ANAT 1 Prerequisite	NURSNG 17 Selection Rate
Female	53.2%
Male	52.1%
4/5 or 80% of Highest Selection Rate	42.6%
Disproportionate Impact	**None**
Met PHYS 3 Prerequisite	NURSNG 17 Selection Rate
Female	42.7%
Male	46.2%
4/5 or 80% of Highest Selection Rate	37.2%
Disproportionate Impact	**None**
Met ANAT 1 And PHYS 3 Prerequisite	NURSNG 17 Selection Rate
Female	40.8%
Male	43.7%
4/5 or 80% of Highest Selection Rate	34.9%
Disproportionate Impact	**None**

The data revealed no disproportionate impact of implementing an ANAT 1 or PHYS 3 prerequisite for NURSING 17. The data also revealed that implementing both does not meet the threshold for disproportionate impact.

ETHNICITY

Table 13 contains the selection rates, by ethnic/race group, for eligibility for NURSNG 17 based on the three prerequisite scenarios. Native American/Alaskan Native students and students categorized as "two or more" were not included in the analysis because there were fewer than ten students in each cohort. A table containing the counts and percentages of students in the cohort by ethnicity is available in the appendix.

Table 13. Selection rates by ethnicity

Met ANAT 1 Prerequisite	NURSNG 17 Selection Rate
Asian/Pacific Islander	52.3%
Black	44.0%
Hispanic	60.2%
White	51.9%
4/5 or 80% of Highest Selection Rate	48.1%
Disproportionate Impact	**YES: Black Students**
Met PHYS 3 Prerequisite	NURSNG 17 Selection Rate
Asian/Pacific Islander	53.8%
Black	36.0%
Hispanic	46.6%
White	40.6%
4/5 or 80% of Highest Selection Rate	43.1%
Disproportionate Impact	**YES: Black Students**
Met ANAT 1 And PHYS 3 Prerequisite	NURSNG 17 Selection Rate
Asian/Pacific Islander	50.8%
Black	36.0%
Hispanic	44.9%
White	38.7%
4/5 or 80% of Highest Selection Rate	35.9%
Disproportionate Impact	**NO**

The data revealed that Black students would be adversely impacted by implementing either an ANAT 1 or a PHYS 3 prerequisite. When both are implemented, the rates for the other groups changes enough that there is not an impact based on the 4/5 or 80% threshold. Some caution should be used when interpreting these results as there were only 25 Black students in the cohort. ***Implementing either an ANAT 1 or a PHYS 3 prerequisite on NURSNG 17 would have a negative, disproportionate impact on Black students.***

SUMMARY OF THE FINDINGS

The key findings from the current study regarding the establishment of either ANAT 1 or PHYS 3 as prerequisites for NURSNG 17 are:

- Based on an analysis of students enrolled in the course during the previous three academic years, about 53% of students enrolled in NURSNG 17 met the ANAT 1 prerequisite, about 43% met the PHYS 3 prerequisite, and 41% met both. This means about 47% to 59% of students would be affected by the establishment of the proposed prerequisites.

- Without the prerequisite, the overall course success rate in NURSNG 17 was 53.8%. Establishing ANAT 1 or PHYS 3 as a prerequisite would increase the success rates to 70.6% and 74.3%, respectively. Implementing both would increase the success rate to 75.5%. All three scenarios meet the net increase in accuracy threshold of 10%.

- A statistically significant relationship exists between meeting any of the three prerequisite statuses and NURSNG 17 success. In all three cases, disproportionately more students with the prerequisite are successful in NURSNG 17 than students who do not meet the prerequisite.

- There is a positive and significant relationship between performance in ANAT 1 or PHYS 3 and NURSNG 17; students who earn higher grades in the former also earn higher grades in the latter. However, the size of the correlation for ANAT 1 is only small to moderate and does not meet the threshold of +.35 recommended by the ASCCC. The relationship between PHYS 3 and NURSNG 17 does meet the threshold.

- Establishing either prerequisite has no disproportionate impact on any gender groups.

- Establishing ANAT 1 or PHYS 3 as a prerequisite for NURSNG 17 would adversely impact Black, students; disproportionately fewer students from this group would have access to the course when compared with other ethnic/race groups. Establishing both would have no disproportionate impact on any ethnic/race group.

References

Academic Senate for California Community Colleges (1997). *Good practice for the implementation of prerequisites.* Sacramento, CA: Chancellor's Office.

Boatright, D. (2003). *Advisory on the use of 'model prerequisites' for enrollment in Associate Degree Nursing (ADN) programs.* Sacramento, CA: Chancellor's Office.

California Community College Matriculation Regulations (1998). Sacramento, CA: Chancellor's Office.

Pascarella, E. T., & Terenzini, P. T. (2005). *How college affects students (Vol. 2): A third decade of research.* San Francisco, CA: Jossey-Bass.

Title 5, California Code of Regulations. Sacramento, CA: California Department of Education.

Santa Monica College
New SMC Course
Expanded Course Outline for ASTRON 8 - Introduction to Astrophysics

Course Cover	
Discipline	ASTRON-ASTRONOMY
Course Number	8
Full Course Title	Introduction to Astrophysics
Catalog Course Description	A rigorous quantitative introduction to the physics of astronomy for prospective majors and mathematically-minded enthusiasts. The course employs graphing techniques, systems of equations, and geometric analysis to survey a wide range of astronomical phenomena including stellar evolution, planetary physics, and extragalactic cosmology. Emphasis will be placed upon deploying expedient methods of approximation to solve problems in emerging frontiers of research such as exoplanets, brown dwarfs, neutron stars, black holes, quasars, dark matter, and gamma-ray bursts. This curriculum provides an extraordinary opportunity for the motivated student to experience the thrill of applied math in the cosmic context of 21st century astrophysics.
Rationale	
Rationale	Of the six astronomy courses currently offered by the college, none require or nor recommend any prerequisite level of basic mathematical background. In a science that is essentially the physics of the planetary, stellar, and extragalactic realms, one is unable to properly express the diverse patterns and underlying laws governing the cosmos without the universal language of math. At SMC, there is an unfilled niche for a computationally rigorous lower-division class in astrophysics such as a student intending to major in astronomy (or several related subjects such as physics, chemistry, mathematics, or engineering) might take in the first or second year of study. When I was a freshman physics major at Harvard, it was precisely such a course which I took as an approved elective within the major which first sparked my interest in astronomy research. The course will be designed to fulfill transfer requirements for the IGETC physical science category. The course will be closely patterned after the highest lower-division astrophysics courses offered at UC Berkeley (Astronomy 7) and UCLA (Astronomy 81/82). I plan to work with several of my research colleagues at both of these institutions to ensure cross-compatibility with the analogous UC courses. The course will demand appropriate minimum level of mathematical prerequisite to ensure a sufficient skill base while providing access to an optimal number of students. This course may

	also serve to improve interdisciplinary contact among faculty in STEM fields such as physics, math, and engineering. I will also explore the satisfaction of course requirements for participation in the SMC Scholars Program. In my 15 years of teaching astronomy at SMC, I have collected a steady flow of requests from my best students to elaborate on the details of more complex quantitative calculations which I can only describe qualitatively within the confines of our most basic classes. Numerous students have sought counsel for progressing toward a more rigorous computational astrophysics course in an astronomy sequence which we have thus far been unable to offer. With the addition of an introductory astrophysics course to our astronomy portfolio, students will finally be able to try their hand at the types of problems facing contemporary astronomy researchers, while developing a feeling for the basic calculations that have formed the historical foundations of astronomy in the age of physics. By marketing the course to highly capable students of physics, chemistry, mathematics, and engineering, the college can form a vital interdisciplinary link between these closely related fields for a future in which increasing specialization will demand very active collaboration between narrow research paths. Regardless of whether these students originally intend to pursue astrophysics as a career, they may well find that the skills and appreciation they develop in this class will open a wide range of vocational specialization within their chosen fields such as the widespread engineering of optics and imaging systems (astronomical, atmospheric, terrestrial, and medical), or the chemistry and potential biochemistry of planetary systems and interstellar debris. By adding a course such as Astronomy 8: Introduction to Astrophysics to the repertoire of the Astronomy Division of the Earth Science Dept, we will not only do a better job of extending critical opportunities to our most motivated students; we will also increase the prestige of Santa Monica College as an institution which is capable of producing an atmosphere of scholarship on par or beyond that of lower-division course offerings at highly-regarded four-year universities.
Proposal Information	
Proposed Start	Year: 2014 Semester: Fall
Proposed for Distance Ed	No
Proposed for Global Citizenship	No
Course Unit/Hours	
Variable Hour Exist	NO
Credit Hours	Min: 3.00

Weekly Lecture Hours	Min: 3.00 (Sem: 54)
Weekly Laboratory Hours	Min:
Weekly Arranged Hours	Min:
Total Semester Instructional Hours	54.00
Repeatability	May be repeated 0 time(s)
Grading Methods	Letter Grade or P/NP

Transfer/General Ed

Transferability

Transfers to UC (pending review)
Transfers to CSU

IGETC Area:

(pending review)

- IGETC Area 5: Physical and Biological Sciences (mark all that apply)
  - 5A: Physical Science

CSU GE Area:

- CSU GE Area B: Scientific Inquiry and Quantitative Reasoning (mark all that apply)
  - B1 - Physical Science

SMC GE Area:

- GENERAL EDUCATION PATTERN (SMC GE)
  - Area I: Natural Science

Comparable Transfer Courses:

- **UC**
  UC Berkeley
  Introduction to Astrophysics AY 7A

- **UC**
  UC Los Angeles

Astrophysics I/II Astr 81/82

Program Applicability	
Designation	Credit - Not Degree Applicable
Proposed For	**AA Degree** -General Science **Certificate of Achievement** -IGETC; CSUGE

Pre/Corequisites & Advisories

Prerequisite
MATH 2

Content Review

See worksheet

Course Objectives

Upon satisfactory completion of the course, students will be able to:
1. Apply principles of math and physics to solve problems in astronomy
2. Use slope and area graphing techniques to analyze relationships at play in astrophysical phenomena
3. Master cutting-edge concepts in stellar evolution and planetary studies using a physics-based approach
4. Derive important results by blending basic concepts and empirical relationships between variables
5. Calculate distances, ages, luminosities, temperatures, and other properties of stars and galaxies
6. Engage methods of approximation and error analysis to derive quick solutions in questions of applied physics
7. Compute robust solutions to astronomy problems from first principles

Course Content	
10%	Overview of the Physical Universe
20%	Waves, Light, Matter, and Thermodynamics
20%	Energy, Forces, Kinematics and Celestial Dynamics
20%	Stellar Structure, Formation, and Evolution
10%	Supernovae, Neutron Stars, Pulsars, Black Holes
10%	Interstellar Travel and Relativistic Effects
10%	Extragalactic Cosmology, Dark Matter, and the Big Bang
Total: 100%	

Methods of Presentation	
Methods	Group Work Lecture and Discussion

	Observation and Demonstration Projects
Methods of Evaluation	
Methods	• 5% - Class Participation • 25% - Exams/Tests • 20% - Final exam • 30% - Homework • 10% - Quizzes • 10% - Research Projects • 100% - Total
Appropriate Textbooks	
Textbooks such as the following are appropriate:	
Formatting Style	APA
Textbooks	
1. Karttunen H. et al. *Fundamental Astronomy*, 5th ed. Springer, 2007, ISBN: 3540341439.	
2. Carroll, B. and Ostlie D.. *An Introduction to Modern Astrophysics*, 2nd ed. Pearson Addison-Wesley, 2006, ISBN: 0805304029.	
3. Zeilik M, and Gregory S.. *Introductory Astronomy and Astrophysics*, 4th ed. Saunders, 1997, ISBN: 0030062284.	
4. Shu F.. *The Physical Universe: An Introduction to Astronomy*, 1st ed. University Science Books, 1982, ISBN: 0935702059.	
5. Ryden, B. and Peterson B.. *Foundations of Astrophysics*, 10th ed. Addison-Wesley Longman, 2010, ISBN: 0321595580.	
Assignments	
Sample Assignment	
1) Kapteyn's method of star counts is still used today to derive the essential relationship n(L) now called the "luminosity function." Please discuss qualitatively what information is needed aside from N(f>F) to calculate the function n(L). In addition, describe the "Malmquist bias," the selection effect caused by seeing more intrinsically luminous stars at greater distances than stars which are inherently faint. To ameliorate this systematic bias, we require a "distance-limited" sample of stars rather than a "brightness-limited" sample. Think about how would you go about identifying such a "distance-limited" sample. Please support your conclusions with quantitative analysis like the ones we demonstrated during lecture. (HINT = what if you were to make use of proper-motion surverys in the Milky Way Galaxy?) 2) Aristarchus discovered a brilliant method for measuring the relative distances of the Moon and the Sun. Because the angular sizes of the Moon and the Sun do not change very much in time, we can reasonably conclude that they maintain nearly fixed distances	

from the Earth (assuming circular orbits.) From the figure in your textbook on page XX show how to determine the ratio of the Moon's distance Rm to the Sun's distance Rs as Rm/Rs = cos (theta), where 2*theta is the entire angle subtended at the Earth by the Moon's positions between first and third quarter phase. In modern times, we have become acutely aware that the angle theta is actually so close to 90 degrees that it is not exceedingly practical to distinguish the value of cos (theta) from zero (in other words, that the Sun cannot be approximated as infinitely distant compared to the Moon.) Modern measurements using reflected radar algorithms show that Rm/Rs = 2.6x10^-3. This implies that the Sun's distance (one AU) is 390 times farther away than the Moon. Conversely, solar-eclipse observations demonstrate that the Sun and the Moon have approximately the same angular sizes (half degree). Argue that this implies that the Sun is about 390 times the Moon's actual diameter. (BONUS = compute their ratio in mass based on their actual average densities). Given that the Moon is only one-quarter the diameter of the Earth, show that the Sun is more than one hundred times larger than the Earth. Assuming three cases of Solar density (less than, greater than, and equal to the Earth's density) derive constraints on the Sun's mass compared to Earth's mass. How does this affect the assumptions of the Geocentric v. Heliocentric models? Given the Moon's diameter and distance from the Earth, compute the Sun's diameter and distance from the Earth. Convert your answer to light-seconds, and discuss how long it typically takes to bounce radar waves back and forth between planets in the solar system under a range of configurations (conjunction/opposition) and (inferior/superior) positioning. How might geometry be used to deduce the orbital radii of Venus and Earth about the Sun? Does this support Galileo's measurements of the apparent diameters of Venusian phases? Explain how these historic observations facilitated acceptance of the Copernican Revolution.

3) Derive general forms of the equations of motion for stars in a binary system assuming elliptical orbits and mass ratios of 1:2, 1:4, 1:10, and 1:100. How do the semi-major axes compare in each case? How does the modified form of Kepler's Third Law appear for each example? Sketch a qualitative graph of the radial velocity curve for each pair described above. Feel free to include example values and tables. Finally, how would the radial velocity curves vary as a function of eccentricity? Sketch and describe the curves for the following values of e=0.01, e=.10, e=.25, e=0.50, e=0.90. What objects in our solar system could be modeled by each of these values?

Student Learning Outcomes

1. Students will develop the skills to solve astrophysics problems by determining quantitative results and explaining the significance of their qualitative behavior.

2. Students will apply graphing techniques, unit analysis, geometry, and systems of equations to build robust solutions to a range of stellar, planetary, and extragalactic astrophysical phenomena.

3. Students will complement their progress in the exact sciences by refining their ability to make expedient approximations simplifying complex equations and reducing seemingly insurmountable problems into "back-of-the-envelope" calculations that rapidly reveal "bottom-line" practical answers to astrophysics questions.

Minimum Qualification

Minimum Qualifications:	Astronomy (Masters Required)
Library	
List of suggested materials has been given to librarian?	Yes
Library has adequate materials to support course?	No
Additional Comments/Information	
Attached Files	
Astro 8 prereq form Astrophysics Textbooks	

Prerequisite / Corequisite Checklist and Worksheet

Astronomy 8: Introduction to Astrophysics

Prerequisite: Math 2: Precalculus

SECTION 1 - CONTENT REVIEW: 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 (required prerequisite at UC or CSU)

X Identify three UC or CSU campuses that offer the equivalent course with the equivalent prerequisite.

List schools here: UCLA Astro 81, UC Berkeley Astro 7a, CSUN Astro 301

Complete the Prerequisite Worksheet

___ Type 2: Sequential within and across disciplines (e.g., Physics 7, 8, 9, …)

Complete the Prerequisite Worksheet

Type 3: Course in communication or computational skills as prerequisite for course other than another skills course (e.g., English 1 prerequisite for Anatomy 1)

___

Complete the Prerequisite Worksheet

Complete Data Analysis

___ Type 4: Program prerequisites

Prerequisite must be required for at least one of the courses in the program. Explain:

modified 09/26/2012

___ Type 5: Health and Safety

Students who lack the prerequisite might endanger themselves, other students or staff. Explain:

Type 6: Recency and other measures of readiness (miscellaneous)

___ **Data must be collected according to sound research principles in order to justify such prerequisites.**

Complete the Prerequisite Worksheet

Prerequisite Worksheet

ENTRANCE SKILLS FOR **(ASTRON 8)**

(What the student needs to be able to do or understand BEFORE entering the course in order to be successful)

A)	Demonstrate knowledge of physical principles used to model natural phenomena.
B)	Demonstrate ability to convey physical concepts with mathematical expressions, and effectively derive quantitative predictions from a model through mathematical analysis.
C)	Demonstrate understanding of scientific methodology, including data collection and analysis, including testing of a mathematical model by comparing with data.
D)	Demonstrate basic ability to write clear, organized and illustrated technical reports, with proper references.
E)	Communicate clearly and articulately about physical concepts, findings, and interpretations.
F)	Demonstrate competency in using analysis tools, including approximation methods, numerical analysis, and algorithmic simulations.

EXIT SKILLS (objectives) FOR **(MATH 2)**

(What the student has the demonstrated ability to do or understand AFTER successful completion of this course)

1.	Analyze and graph a given function, including but not limited to piecewise-defined, polynomial, rational, exponential, logarithmic, trigonometric, and inverse trigonometric functions, without the aid of graphing devices. Determine intercepts, coordinates of holes, and equations of asymptotes. Determine intervals on which polynomial and rational functions are positive and are negative.
2.	Use the language and standard mathematical notation of the algebra of functions.
3.	Write algebraic and trigonometric relationships to solve application problems, including solution of right and oblique triangles by the Law of Sines and Law of Cosines.
4.	Solve polynomial, rational, exponential, logarithmic, and trigonometric equations.
5.	Given a quadratic equation in variables x and y, with no xy term, put it into a standard form in order to classify its graph as one of the conic sections (circle, ellipse, parabola and hyperbola). Determine the directrix, center, vertex points, focus points, major/transverse axis, and minor/conjugate axis, if they exist, and sketch the graph of the conic section.
6.	Synthesize multiple skills and techniques in order to solve a complex, multi-step problem.

modified 09/26/2012

	ENTRANCE SKILLS FOR (ASTRON 8)								
EXIT SKILLS FOR (MATH 2)		A	B	C	D	E	F	G	H
	1		X			X	X		
	2	X	X	X	X	X	X		
	3		X	X			X		
	4	X	X	X		X	X		
	5	X	X	X			X		
	6		X	X	X	X	X		
	7								
	8								

modified 09/26/2012

Santa Monica College
New SMC Course
Expanded Course Outline for ASTRON 9 - Intermediate Astrophysics with Calculus

Course Cover	
Discipline	ASTRON-ASTRONOMY
Course Number	9
Full Course Title	Intermediate Astrophysics with Calculus
Catalog Course Description	A robust calculus-based treatment of Astrophysics suited for science majors and mathematically-minded enthusiasts. The course makes use of methods in quantitative analysis including dynamical physics, differential and integral calculus, trigonometry and advanced graphing techniques to address a wide range of astronomical phenomena including stellar interiors, planetary atmospheres, galactic evolution, and the large-scale structure of the Universe. Emphasis will be placed on finding analytic solutions to problems in emerging areas of research such as exoplanetary systems, disk resonance structures, active galaxies, black holes, dark energy, gamma-ray bursts, and big bang nucleosynthesis. This curriculum provides a remarkable opportunity for the motivated student to experience the power of applying calculus-based physics to the frontiers of contemporary astrophysical problems.
Rationale	
Rationale	Astron 9 can initially be offered once per year as a more rigorous follow-up to Astron 8 available to students who have already taken General Physics 8 and therefore Calculus at the Math 7 level. The course will be closely patterned after the highest lower-division astrophysics courses offered at UC Berkeley (Astronomy 7a/b) and UCLA (Astronomy 81/82). I plan to work with several of my research colleagues at both of these institutions to optimize chances for articulation with these analogous UC courses. This course may also serve to improve interdisciplinary contact among faculty in STEM fields such as physics, math, and engineering. I will also explore the satisfaction of course requirements for participation in the SMC Scholars Program. In my 15 years of teaching astronomy at SMC, I have collected a steady flow of requests from my best students to elaborate on the details of more complex quantitative calculations which I can only describe qualitatively within the confines of our most basic classes. Numerous students have sought counsel for progressing toward a more rigorous computational astrophysics course in an astronomy sequence which we have thus far been unable to offer. With the addition of both an introductory and intermediate astrophysics

	course to our astronomy portfolio, students will finally be able to try their hand at the types of problems facing contemporary astronomy researchers, while developing a feeling for the basic calculations that have formed the historical foundations of astronomy in the age of physics. By marketing the course to highly capable students of physics, chemistry, mathematics, and engineering, the college can form a vital interdisciplinary link between these closely related fields for a future in which increasing specialization will demand very active collaboration between narrow research paths. Regardless of whether these students originally intend to pursue astrophysics as a career, they may well find that the skills and appreciation they develop in this class will open a wide range of vocational specialization within their chosen fields such as the widespread engineering of optics and imaging systems (astronomical, atmospheric, terrestrial, and medical), or the chemistry and potential biochemistry of planetary systems and interstellar debris. By adding a course such as Astronomy 9: Intermediate Astrophysics to the repertoire of the Astronomy Division of the Earth Science Dept, we will not only do a better job of extending critical opportunities to our most motivated students; we will also increase the prestige of Santa Monica College as an institution which is capable of producing an atmosphere of scholarship on par or beyond that of lower-division course offerings at highly-regarded four-year universities. Of the six astronomy courses currently offered by the college, none require or nor recommend any prerequisite level of basic mathematical background. In a science that is essentially the physics of the planetary, stellar, and extragalactic realms, one is unable to properly express the diverse patterns and underlying laws governing the cosmos without the universal language of math. At SMC, there is an unfilled niche for computationally rigorous lower-division classes in astrophysics such as a student intending to major in astronomy (or several related subjects such as physics, chemistry, mathematics, or engineering) might take in the first or second year of undergraduate study.
Proposal Information	
Proposed Start	Year: 2015 Semester: Spring
Proposed for Distance Ed	No
Proposed for Global Citizenship	No
Course Unit/Hours	
Variable Hour Exist	NO
Credit Hours	Min: 3.00
Weekly Lecture Hours	Min: 3.00 (Sem: 54)

Weekly Laboratory Hours	Min:
Weekly Arranged Hours	Min:
Total Semester Instructional Hours	54.00
Repeatability	May be repeated 0 time(s)
Grading Methods	Letter Grade or P/NP

Transfer/General Ed

Transferability

Transfers to UC (pending review)
Transfers to CSU

IGETC Area:

(pending review)

- IGETC Area 5: Physical and Biological Sciences (mark all that apply)
  - 5A: Physical Science

CSU GE Area:

(pending review)

- CSU GE Area B: Scientific Inquiry and Quantitative Reasoning (mark all that apply)
  - B1 - Physical Science

SMC GE Area:

- GENERAL EDUCATION PATTERN (SMC GE)
  - Area I: Natural Science

Comparable Transfer Courses:

- **UC**
  UC Berkeley
  Introduction to Astrophysics AY 7B
- **UC**
  UC Los Angeles
  Astrophysics II Astr 82

Program Applicability	
Designation	Credit - Degree Applicable
Proposed For	**AA Degree** -General Science **Certificate of Achievement** -IGETC CSUGE

Pre/Corequisites & Advisories
Prerequisite PHYSCS 21

Content Review
See worksheet

Course Objectives
Upon satisfactory completion of the course, students will be able to:
1. Apply principles of classical physics to address astronomical phenomena.
2. Compute exact solutions for astrophysical problems from first principles by formulating expressions using integral and differential calculus.
3. Construct mathematical models designed to illustrate contemporary discoveries in stellar evolution, extra-galactic cosmology, and planetary systems.
4. Derive first-order approximations to efficiently solve astrophysical equations and employ methods of error analysis to evaluate the accuracy of those approximations.
5. Demonstrate clear understanding of scientific methodology by performing quantitative assessments including testing of mathematical models by comparing with collected data.
6. Examine and explain the general significance of astrophysical concepts, and interpret the findings of related calculations through clear communication of the main ideas.

Course Content	
10%	Review of the Physical Universe
20%	Radiative Processes, Thermodynamics, and Atomic Structure
20%	Astrophysical Kinematics and Celestial Dynamics
15%	Stellar Interiors and Planetary Atmospheres
15%	Star, Planet, and Galaxy Formation/Evolution
10%	High-Energy Phenomena, Gamma-Ray Bursts, Degenerate Stellar Collapse
10%	Large Scale Structure of the Universe, Dark Energy, Big Bang Nucleosynthesis and Inflation Theory
Total: 100%	

Methods of Presentation	
Methods	Group Work Lecture and Discussion Observation and Demonstration Projects

Methods of Evaluation

Methods	• 5% - Class Participation • 25% - Exams/Tests • 20% - Final exam • 30% - Homework • 10% - Quizzes • 10% - Research Projects • 100% - Total

Appropriate Textbooks

Textbooks such as the following are appropriate:

Formatting Style	APA

Textbooks

1. Ryden, B. and Peterson B. *Foundations of Astrophysics*, 10th ed ed. Addison-Wesley Longman, 2010, ISBN: 0321595580.

2. Karttunen H. et al. *Fundamental Astronomy*, 5th ed ed. Springer, 2007, ISBN: 3540341439.

3. Carroll, B. and Ostlie D.. . *An Introduction to Modern Astrophysics*, 2nd ed ed. Pearson Addison-Wesley, 2006, ISBN: 0805304029.

4. Zeilik M, and Gregory S.. . *Introductory Astronomy and Astrophysics*, 4th ed ed. Saunders, 1997, ISBN: 0030062284.

5. Shu F.. . *The Physical Universe: An Introduction to Astronomy*, 1st ed ed. University Science Books, 1982, ISBN: 0935702059.

Assignments

Sample Assignment

1) Let Z be the mean ANGULAR velocity of galactic disk stars at a distance r from the center of the Galaxy. Oort's dynamical constants A (one-half the "shear") and B (one-half the "vorticity") are defined by the differential expressions

A = (-r/2) * dZ/dr and

B = (-1/2r) * d (Z*r^2)/dr

show that Z = A - B, which equals -B only if A=0, i.e. only if Z corresponds to uniform rotation. Analysis of the local differential stellar space motions yields A = 0.0050 km per sec per light-year. Measurement of the ratio of random velocities in the radial and circular directions yields (1 - A/B)^1/2 = 1.6 (Show that this ratio equals 1 for A = 0) Compute the numerical value of B in the solar neighborhood, and calculate the rotation period 2*pi/Z in millions of years. If r = 30,000 light years, calculate the circular speed v=r*Z, and estimate the mass of the Galaxy interior to the solar circle by the crude formula M = rv^2/G. Convert your answer to solar masses.

BONUS ROUND: To obtain B, can we use the proper motions of disk stars measured relative to quasars as background objects that do not share in the rotation of our Galaxy? Since quasars are extra-galactic objects, are they easily seen through the plane of the disk, where there is considerable extinction by interstellar dust?

2) Our class derivation of the Luminosity from a spherically-symmetric stellar interior showed that

L = ((4/3)*pi*R^3)(aT^4)/3R^2/lc

where R is the radius of the star, T is its mean interior temperature, a is the Stefan-Boltzman radiation constant, c is the speed of light, and l is the mean free path for the "random-walk" of a photon. To derive a Mass-Luminosity relationship, we need to express T and l in terms of M and R. Since we are primarily interested in the proportional relationships, you may use the opacity of main-sequence stars such that the mean free path l can be approximated by

l ~ T^3.5/rho^2 for stars with low to medium mass (bound electron contribution from temperature-dependent ionization states of inner shell orbitals contributing to X-ray opacity)

l ~ 1/rho for stars with high to very high mass (scattering of X-rays off free electrons which depends only on the ambient electron density)

where rho is the mean density of free electrons. Argue that

rho ~ M/R^3 and P ~ GM^2/R^4

where P is the total pressure. In stars with low to high mass, P can be taken as the gas pressure, whereas in stars with very high mass, radiation pressure dominates. Show that

P ~ rho * T for stars with low to high mass

P ~ T^4 for stars with very high mass.

Use these relationships to demonstrate the results
L ~ M^5.5/R^0.5 for stars with low to medium mass

L ~ M^3 for stars with high mass

L ~ M for stars with very high mass

In order to fuse hydrogen in a stellar core in stars with low to medium mass R ~ M, therefore show that L ~ M^5 is a representative function. If we ignore extremely rare stars of very high mass, argue that L ~ M^4 provides a reasonable approximation for the majority of the stars on the main sequence.

For a representative sample of main-sequence stars in a Spiral Galaxy, INTEGRATE the mass-luminosity function to derive an expression for the total power output provided by hydrogen-burning stars over the entire galactic population.

Estimate the lifetime of a star as a function of mass if one assumes that the core fuel supply is proportional to the mass of the star.

Student Learning Outcomes
1. Students will apply differential and integral calculus, dynamical physics, advanced graphing techniques, and functional analysis to build robust solutions to a range of stellar, planetary, and extragalactic astrophysical phenomena.
2. Students will develop the skills to solve astrophysics problems by determining quantitative results and explaining the significance of their qualitative behavior.
3. Students will complement their progress in the exact sciences by refining their ability to make expedient approximations simplifying complex equations and reducing seemingly insurmountable problems into "back-of-the-envelope" calculations that rapidly reveal "bottom-line" practical answers to astrophysics questions.
4. Students will apply principles of physics in mechanics and thermodynamics to address astrophysical problems using a rigorous level of calculus-based analysis.

Minimum Qualification	
Minimum Qualifications:	Astronomy (Masters Required)

Library	
List of suggested materials has been given to librarian?	Yes
Library has adequate materials to support course?	No

Prerequisite / Corequisite Checklist and Worksheet

Astronomy 9: Intermediate Astrophysics with Calculus

Prerequisite: Physics 21: Mechanics with Lab

SECTION 1 - CONTENT REVIEW: 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 (required prerequisite at UC or CSU)

X Identify three UC or CSU campuses that offer the equivalent course with the equivalent prerequisite.

List schools here: UCLA Astro 81, UC Berkeley Astro 7a, CSUN Astro 301

Complete the Prerequisite Worksheet

___ Type 2: Sequential within and across disciplines (e.g., Physics 7, 8, 9, …)

Complete the Prerequisite Worksheet

___ Type 3: Course in communication or computational skills as prerequisite for course other than another skills course (e.g., English 1 prerequisite for Anatomy 1)

Complete the Prerequisite Worksheet

Complete Data Analysis

___ Type 4: Program prerequisites

modified 09/26/2012

Prerequisite must be required for at least one of the courses in the program. Explain:

___ Type 5: Health and Safety

Students who lack the prerequisite might endanger themselves, other students or staff. Explain:

Type 6: Recency and other measures of readiness (miscellaneous)

___ **Data must be collected according to sound research principles in order to justify such prerequisites.**

Complete the Prerequisite Worksheet

Prerequisite Worksheet

ENTRANCE SKILLS FOR **ASTRON 9**
(What the student needs to be able to do or understand BEFORE entering the course in order to be successful)

A)	Model astrophysical concepts with mathematical expressions, and effectively derive quantitative predictions from a model through calculus-based mathematical analysis.
B)	Exhibit understanding of scientific methodology, including data collection and analysis, including testing of a mathematical model by comparing with data.
C)	Communicate clearly and articulately about astrophysical concepts, findings, and interpretations.
D)	Demonstrate competency in using analysis tools, including kinematics, dynamics, integral and differential calculus, trigonometry, algebra of functions, approximation methods, numerical analysis, and algorithmic simulations.

EXIT SKILLS (objectives) FOR **PHYSCS 21**
(What the student has the demonstrated ability to do or understand AFTER successful completion of this course)

1.	Use the basic concepts in physics to qualitatively explain physical phenomena.
2.	Compile data from a physical problem and synthesize these data into a mathematical problem.
3.	Take the mathematical problem to a successful conclusion using mathematical principles of algebra, trigonometry, and calculus.
4.	Operate, adjust, and use the equipment necessary in laboratory experiments to obtain quantitative measurements.
5.	Learn to estimate the uncertainty of a measurement ant the results obtained from such measurements.
6.	Use the mathematical tools of the computer, such as spreadsheets and graphing programs, to analyze data.
7.	Write laboratory reports including statement of purpose, compilation of data, theory involved in the experiment, method of measurements, samples of calculations, tabulation of results, and analyses of sources of error.
8.	Ultimately, through satisfying these objectives, a strong foundation is laid in the various principles of physics, so that students enrolling in more advanced courses will be able to succeed and continue their science education.

modified 09/26/2012

	ENTRANCE SKILLS FOR ASTRON 9								
EXIT SKILLS FOR PHYSCS 21		A	B	C	D	E	F	G	H
	1		X	X	X				
	2	X	X		X				
	3	X			X				
	4		X						
	5		X	X					
	6	X	X		X				
	7		X	X					
	8	X	X	X	X				

modified 09/26/2012

Santa Monica College
New SMC Course
Expanded Course Outline for CS 83R - Server-Side Ruby Web Programming

Course Cover	
Discipline	CS-COMPUTER SCIENCE
Course Number	83R
Full Course Title	Server-Side Ruby Web Programming
Catalog Course Description	This course teaches how to design and write applications utilizing Ruby on Rails, an open-source web application framework based on the Ruby programming language. In this course, students will create applications that gather information from a web server, query databases and render results.
Rationale	
Rationale	Based on recommendations from our Advisory Board and current industry trends, our students (especially those completing the Web Programmer Certificate) need to know how to use the current industry-standard tools and technologies.
Proposal Information	
Proposed Start	Year: 2014 Semester: Fall
Proposed for Distance Ed	Yes
Proposed for Global Citizenship	No
Course Unit/Hours	
Variable Hour Exist	NO
Credit Hours	Min: 3.00
Weekly Lecture Hours	Min: 3.00 (Sem: 54)
Weekly Laboratory Hours	Min:
Weekly Arranged Hours	Min:
Total Semester Instructional Hours	54.00
Load Factor	1.00
Load Factor Rationale	This is a lecture-based programming class similar to others in our department that have this 1.0 load factor
Repeatability	May be repeated 0 time(s)

Grading Methods	Letter Grade or P/NP
Transfer/General Ed	
Transferability	
Transfers to CSU	
CSU GE Area:	
• CSU GE Area B: Scientific Inquiry and Quantitative Reasoning (mark all that apply) o B4 - Mathematics/Quantitative Thinking	
SMC GE Area:	
Does NOT satisfy any area of SMC GE:	
Program Applicability	
Designation	Credit - Degree Applicable
Proposed For	**AA Degree** -Web Programmer, Computer Programmer **Certificate of Achievement** -Web Programmer
Pre/Corequisites & Advisories	
Prerequisite CS 60 and	
Prerequisite CS 80 and	
Prerequisite CS 15 or	
Prerequisite CS 52 or	
Prerequisite CS 53A or	
Prerequisite CS 55	

or
Content Review
See worksheet.

Course Objectives
Upon satisfactory completion of the course, students will be able to:
1. design and write applications utilizing the Ruby programming language
2. test and debug Ruby applications
3. use UML modeling when defining and implementing classes in Ruby
4. apply object-oriented principles and design techniques in solving specific programming problems
5. apply the Model-View-Controller design pattern when working with the Rails webapp environment
6. describe the Rails webapp environment
7. apply Ruby on Rails to solve specific programming problems

Course Content	
10%	Overview of Ruby on Rails; The DRY ("Don't Repeat Yourself") Design Principle; The Code Generation Paradigm
10%	Programming with Ruby
10%	Flow of Control with Ruby
10%	Working with Classes and Objects in Ruby
10%	HTML Generation and Forms Processing
10%	The Model-View-Controller Design Pattern
10%	Working with Controllers, Models, Views, Layouts and Routing Tables
10%	Database Create-Read-Update-Delete Operations
10%	Data Input and Validation Techniques
10%	Working with Rake Scaffolding and REST Services
Total: 100%	

Methods of Presentation	
Methods	Lecture and Discussion Observation and Demonstration Projects

Methods of Evaluation	
Methods	• 20% - Exams/Tests Midterm • 30% - Final exam • 30% - Homework

	Programming Projects with Ruby • 20% - Projects A Final Project • 100% - Total

Appropriate Textbooks	
Textbooks such as the following are appropriate:	
Formatting Style	APA
Textbooks	
1. Ruby, S., Thomas, D., Heinemeier, D.. *Agile Web Development with Rails 3.2*, 2nd edition ed. Pragmatic Programmers Publishers, 2012, ISBN: 9781934356548.	
2. Olsen, R.. *Eloquent Ruby*, 1st edition ed. Addison-Wesley, 2011, ISBN: 9780321584106.	
3. Fernandez, O.. *The Rails 3 Way*, 1st edition ed. Addison-Wesley, 2011, ISBN: 9780321601667.	
Software	
1. Ruby. Open-Source, 2.0 ed. The Ruby Programming Language. This Open-Source product runs on Windows, Mac and Linux and is freely available for download from the Internet.	
2. SQLite. Open-Source, 3.0 ed. The SQLite Database. This Open-Source product runs on Windows, Mac and Linux and is freely available for download from the Internet.	
3. Rails. Open-Source, 3.2 ed. The Rails Webapp Environment. This Open-Source product runs on Windows, Mac and Linux and is freely available for download from the Internet.	

Assignments
Sample Assignment
1. Create a Ruby program which calculates the cost for a particular student at Santa Monica College, prompting for enrolled units, residency status or other options fees. 2. Build a web application that reads product information from a database and builds shopping cart for a customer order by correcting calculating costs, taxes and shipping fees for a particular customer.

Student Learning Outcomes
1. Design and create applications using the Ruby programming language.
2. Build web applications utilizing Ruby on Rails.

Minimum Qualification	
Minimum Qualifications:	Computer Science (Masters Required)

Library	
List of suggested materials has been given to	No

librarian?	
Library has adequate materials to support course?	Yes
Additional Comments/Information	
Please see books listed in the "Appropriate Textbooks" area.	
Distance Ed Distance Education Application	
Delivery Methods	Online/Web-based Online Hybrid (51% or more of course is held on-campus)
Need/Justification	
Distance Education Quality	
Quality Assurance	Course objectives have not changed Course content has not changed Method of instruction meets the same standard of course quality Outside assignments meet the same standard of course quality Serves comparable number of students per section as a traditional course in the same department Required texts meet the same standard of course quality
Additional Considerations	Determination and judgments about the equality of the distance education course were made with the full involvement of the faculty as defined by Administrative Regulation 5420 and college curriculum approval procedures. Adequate technology resources exist to support this course/section Library resources are accessible to students Adequately fulfills “effective contact between faculty member and student” required by Title 5. Will not affect existing or potential articulation with other colleges
Guidelines and Questions for Curriculum Approval of a Distance Education Course Student Interactions	
Student-Instructor Interaction	Students have weekly threaded discussion board to ask questions and get responses. Student may email questions to the instructor.
Student-Student Interaction	Students will be required to post messages in response to questions posed each week to cover the material covered that week. Using the threaded discussions, students will interact with one another.
Student-Content Interaction	Students will post weekly answers to questions in a threaded discussion. Students will get feedback on their completed homework assignments and programming projects.

Online class activities that	**Brief Description**	**Percentage of Online**

promote class interaction and engagement		Course Hours
Discussion Boards	Students post weekly answers to questions.	5%
Online Lecture	Powerpoint slides with animation and annotations to explain the topics covered.	45%
Exams	Midterm and Final Exam	30%
Written assignments	Students submit written programming assignments, and get individual feedback as well as sample solutions and general comments for the whole class.	10%

Describe how content will be organized and delivered in the interest of achieving course outcomes/objectives (e.g. what are the methods of instruction being used, technologies used, approximate time schedule, necessary instructional materials.)

Weekly powerpoint slides with animation and annotation.
Discussion board messages help further clarify topics.
Individualized feedback on each assignment and overall comments for the whole class help students avoid pitfalls and adopt good programming techniques.

Describe the technical qualifications an instructor would need and the support that might be necessary for this course to be delivered at a distance (e.g. the college's existing technology, CCCConfer certification, other specialized instructor training, support personnel, materials and resources, technical support, etc.)

Instructor needs to have proper experience with online course delivery.

Describe any student support services one might want or need to integrate into the online classroom for this course (e.g. links to counseling, financial aid, bookstore, library, etc.)

Students are referred to counseling, and tutoring services via announcements and the course syllabus - both posted in the online side

Describe how the design of the course will ensure access for students with disabilities including compliance with the regulations of Section 508 of the Rehabilitation Act.

All materials will be 508 compliant: content will be available via reader application. All sound files will be captioned.

Using one of the course objectives, describe an online lesson/activity that might be used in the course to facilitate student learning of that objective. Be sure the sample lesson/activity includes reference to the use of online teaching tools (such as drop box or threaded discussion, or multimedia such as Articulate, Flash, Jing, etc.).

Students submit assignments in the dropbox and get individual feedback. Completing the assignments helps students solidify and practice the topics covered. A general comment about each assignment will be posted in the weekly discussion so students cover the 'lessons learned' and avoid pitfalls. Weekly postings in the discussion keeps students engaged. Quizzes keep the students on-course with their studying.

Assessment Best Practices

5%-**Class Participation** - Students get a question each week in the discussion board that they must answer and get feedback on

20%-**Written programming assignments** - Students get individual feedback, a sample solution, and overall comments for everyone posted in the discussion so students learn from each other mistakes.
20%-**Midterm** - Students will get feedback on their coding questions.
30%-**Final Exam** - Students will demonstrate their understanding of the course material
25%-**Threaded Discussion Case Studies** - Students will demonstrate how they can apply the course content to real-world scenarios and case studies posted on the discussion board.

Attached Files

CS 15 or 52 or 53A or 56
CS 60
CS 80

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

CS 83 R : Server-Side Ruby Web Programming
Prerequisite: CS 15 or CS 52 or CS 53A or CS 56
Other prerequisites, corequisites, and advisories also required for this course: (Please note that a separate sheet is required for each prerequisite, corequisite, or advisory)
CS 15 : Visual Basic Programming
CS 52 : C++ Programming
CS 53A : iOS Development with Objective-C
CS 56 : Advanced Java Programming

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
	Type 4:	Program prerequisites
	Type 5:	Health and Safety
	Type 6:	Recency and other measures of readiness (miscellaneous)

Prerequisite Worksheet

ENTRANCE SKILLS FOR CS 83R

A)	Apply the principles of Object Oriented Programming and Analysis techniques
B)	Practice working with an integrated development environment
C)	Plan, create and use functions, procedures and subroutines
D)	Design and create applications
E)	Create, prepare and evaluate flowcharts for a given problem
F)	Apply programming concepts to solve specific problems

EXIT SKILLS FOR CS 15, CS 52, CS 53A AND CS 56 AS THEY RELATE TO CS 83R

1.	Apply the principles of Object Oriented Programming and Analysis techniques (CS 15) Apply object-orientation principles and design techniques in solving specific programming problems (CS 52) Apply object-orientation principles and design techniques in solving specific programming problems (CS 53A) Apply object-orientation principles and design techniques in solving specific programming problems (CS 56)
2.	Describe and practice using an integrated development environment (CS 15) Describe and practice using an integrated development environment (CS 52) Describe and practice using an integrated development environment (CS 53A) Describe and practice using an integrated development environment (CS 56)
3.	Plan, create and use functions, procedures and subroutines (CS 15) Plan, create and use functions, procedures and subroutines (CS 52) Plan, create and use functions, procedures and subroutines (CS 53A) Plan, create and use functions, procedures and subroutines (CS 56)
4.	Write small-scale applications (CS 15) Design and create applications (CS 52) Design and create applications (CS 53A) Design and create applications (CS 56)
5.	Analyze and flowchart a given problem (CS 15) Create, prepare and evaluate flowcharts for a given problem (CS 52) Analyze and flowchart a given problem (CS 53A) Analyze and flowchart a given problem (CS 56)
6.	Recognize the basic programming structures (CS 15) Recognize and apply various programming concepts including control flow, conditional statements and elementary data structures (CS 52) Apply programming concepts to solve specific problems (CS 53A) Apply programming concepts to solve specific problems (CS 56)

	ENTRANCE SKILLS FOR CS 83R						
EXIT SKILLS FOR (CS 15 or 52 or 53A or 56)		A	B	C	D	E	F
	1	x					
	2		x				
	3			x			
	4				x		
	5					x	
	6						x

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

CS 83 R : Server-Side Ruby Web Programming
Prerequisite: CS 60
Other prerequisites, corequisites, and advisories also required for this course: (Please note that a separate sheet is required for each prerequisite, corequisite, or advisory)
CS 60 : Database Concepts and Applications

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

	Type 4:	Program prerequisites
	Type 5:	Health and Safety
	Type 6:	Recency and other measures of readiness (miscellaneous)

Prerequisite Worksheet

ENTRANCE SKILLS FOR CS 83R

A)	Design small databases with primary and foreign keys and other constraints
B)	Specify datatypes intended to be stored in a database using numeric, string, dates, times and other formats
C)	Design and document databases
D)	Create and drop tables; insert, delete and update raw data; and select data using a relational DBMS
E)	Describe redundancies and their adverse effects
F)	Identify operations such as restrict, project, union, intersection, difference, divide and join

EXIT SKILLS FOR CS 60 AS THEY RELATE TO CS 83R

1.	Design small databases with primary and foreign keys and other constraints to be enforced by the database management system
2.	Specify datatypes to store numeric data, strings of characters, dates, times, and other kinds of types
3.	Design and document databases by using connectivity, cardinality, entity relationship diagrams, relational schemas, and data dictionaries
4.	Create and drop tables; insert, delete and update raw data; and select data using a relational DBMS
5.	Describe redundancies and their adverse effects
6.	Identify operations such as restrict, project, union, intersection, difference, divide and join

	ENTRANCE SKILLS FOR CS 83R						
EXIT SKILLS FOR CS 60		A	B	C	D	E	F
	1	x					
	2		x				
	3			x			
	4				x		
	5					x	
	6						x

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

CS 83 R : Server-Side Ruby Web Programming
Prerequisite: CS 80
Other prerequisites, corequisites, and advisories also required for this course: (Please note that a separate sheet is required for each prerequisite, corequisite, or advisory)
CS 80 : Internet Programming

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

	Type 4:	Program prerequisites
	Type 5:	Health and Safety
	Type 6:	Recency and other measures of readiness (miscellaneous)

Prerequisite Worksheet

ENTRANCE SKILLS FOR CS 83R

A)	Create web pages using XHTML
B)	Format web pages using Cascading Style sheets
C)	Define internet terms such as TCP/IP and client-side and server-side technologies
D)	Describe, setup and use Web Services
E)	Describe, setup and use XML data
F)	Describe and use SQL to manipulate data

EXIT SKILLS FOR CS 80 AS THEY RELATE TO CS 83R

1.	Create Web pages using the XHTML markup language
2.	Format Web pages using the Cascading Style Sheet (CSS) language
3.	Define internet terms such as TCP/IP Protocol suite, client-side and server-side programming, three-tiered Web application, RSS, RIA and Web Services
4.	Describe, setup and use Web Services such as Apache and Microsoft Internet Information Services (IIS).
5.	Create data documents using the Extensible Markup Language (XML)
6.	Demonstrate basic database manipulation using Structured Query Language (SQL), MySQL, and ActiveX Data Objects (ADO).

	ENTRANCE SKILLS FOR CS 83R						
EXIT SKILLS FOR CS 80		A	B	C	D	E	F
	1	x					
	2		x				
	3			x			
	4				x		
	5					x	
	6						x

Santa Monica College
New SMC Course
Expanded Course Outline for FILM 32L - Advanced Digital Filmmaking Lab

Course Cover	
Discipline	FILM-FILM STUDIES
Course Number	32L
Full Course Title	Advanced Digital Filmmaking Lab
Catalog Course Description	This is the laboratory component of Film 32. The laboratory projects will parallel the lecture topics. The lab projects will pertain to directing, cinematography, lighting, sound recording, and the acquiring of images in the HD (High Definition) format. Students will produce elaborate and well-crafted narrative scenes, working in collaboration with other students in the class.
Rationale	
Rationale	A lab portion of the Film 32 Production class is necessary as the lecture portion does not allow ample time for hands on activities wherein students actively learn how to apply the concepts and skills discussed in lecture. Hands on experience with the equipment and on set fully train students in the craft of film.
Proposal Information	
Proposed Start	Year: 2014 Semester: Fall
Proposed for Distance Ed	No
Proposed for Global Citizenship	No
Course Unit/Hours	
Variable Hour Exist	NO
Credit Hours	Min: 1.00
Weekly Lecture Hours	Min:
Weekly Laboratory Hours	Min: 1.00 (Sem: 18)
Weekly Arranged Hours	Min: 2.00 (Sem: 36)
Total	54.00

Semester Instructional Hours	
Load Factor	0.75
Repeatability	May be repeated 0 time(s)
Grading Methods	Letter Grade or P/NP
Transfer/General Ed	
Transferability	
Does NOT transfer to CSU or UC	
SMC GE Area:	
Does NOT satisfy any area of SMC GE:	
Program Applicability	
Designation	Credit - Degree Applicable
Proposed For	**AS Degree** -Film Production **Certificate of Achievement** -Film Production
Pre/Corequisites & Advisories	
Corequisite FILM 32	
Course Objectives	
Upon satisfactory completion of the course, students will be able to:	
1. Use the High Definition (HD) format, including shooting to acquire images that address the HD “workflow” and shooting to get the “film look”	
2. Demonstrate the techniques of shooting to edit.	
3. Apply advanced techniques of camera positioning and movement.	
4. Evaluate and critique the films made by fellow students in the class.	
5. Produce a short digital scene, demonstrating skills learned in the class.	
Arranged Hours Objectives	
Upon satisfactory completion of the course, students will be able to:	
1. Produce elaborate and well-crafted narrative scenes, working in collaboration with other students in the class.	
Course Content	
6.25%	Pitch film projects.
18.75%	Begin film projects on soundstage. Visualizing the script: Where to place the camera to most effectively tell the story. Directorial techniques.
18.75%	Directing the actors: Difference between theater and film acting. Hold

	auditions and engage in the process of casting the scene. Helping an actor maintain focus. Emotional memory. Removing obstacles to develop acting performances. The use of improvisations. Actors and text. Rehearsals with actors. Blocking the actors for the camera. Continuation of film projects on soundstage.
18.75%	Applying advanced filming techniques: The moving camera. Blocking "dolly" shots. Hand-held camera shots and the "cinema-verite" shooting style. The high definition (HD) image and "work flow". Camera menu settings. Getting the "film look". Choice of lenses. Shooting with editing in mind: continuity and coverage. Viewing "dailies". Working with the editor.
18.75%	Continuation of film project on soundstage. Applying skills to enhance exterior and interior lighting techniques: Creating the "natural look". Diffusion. Bounce lighting. Practical lighting sources. Low key lighting vs. high key lighting.
6.25%	Production sound and creating soundtrack elements: Dialogue, sound effects, narration, voice-over. Working with the composer. Visual effects. The final mix.
12.5%	Screening and critique of all student film work.
Total: 100%	
Lab Content	
100%	This is the laboratory component of Film 32; hence, the lab content is the hands-on filming that is done every single class.
Total: 100%	
Methods of Presentation	
Methods	Lab
Other Methods	In-class lab demonstrations Individual and group shooting exercises Filming of narrative scenes
Methods of Evaluation	
Methods	• 100% - Projects In Class Projects 70% Individual Project 30% • 100% - Total
Appropriate Textbooks	
Textbooks such as the following are appropriate:	
Formatting Style	APA
Textbooks	
1. Ben Long and Sonja Schenk. *The Digital Filmmaking Handbook*, 4th ed. Charles River Media, 2011, ISBN: 1435459113.	

Assignments
Sample Assignment
1. Students will evaluate the latitude of the digital video camera and further their understanding of contrast ratio by bracketing exposures in three different lighting conditions. Working in groups of two and shooting in three different lighting conditions – full sunlight, open shade, and shadow and sunlight, students will record a series of shots, incrementally setting proper exposure, overexposure, and underexposure. At the completion of this assignment, the class will evaluate the results and discuss the effect of underexposure, overexposure, and the exposure latitude of the digital video camera. 2. Students will stage, rehearse, and shoot a pre-approved dramatic or comedic scene from an existing screenplay. Directors and producers are to select their crew from fellow classmates. The entire lab session will be devoted to the production of their scene.

Student Learning Outcomes
1. Demonstrate advanced skills in the use of digital production equipment, emphasizing high-definition (HD) technologies.
2. Produce (shoot and edit) a digital scene that demonstrates advanced proficiency in script interpretation and breakdown, advanced lighting, camera, and sound recording techniques, and the direction of actors.

Minimum Qualification	
Minimum Qualifications:	Film Studies (Masters Required)

Library	
List of suggested materials has been given to librarian?	No
Library has adequate materials to support course?	Yes

Santa Monica College
New SMC Course
Expanded Course Outline for FILM 33L - Directing the Short Film Lab

Course Cover	
Discipline	FILM-FILM STUDIES
Course Number	33L
Full Course Title	Directing the Short Film Lab
Catalog Course Description	In this course students will develop and complete a short film. This course is the laboratory component for Film 33 and will parallel the lecture topics of that course.
Rationale	
Rationale	The Film 33 class does not allow ample time to fully develop and produce a short film in class. Class lecture time is reserved for planning, teaching how to develop the film, and visioning. The lab is provided for the actual shooting of the film. The set is the lab.
Proposal Information	
Proposed Start	Year: 2014 Semester: Fall
Proposed for Distance Ed	No
Proposed for Global Citizenship	No
Course Unit/Hours	
Variable Hour Exist	NO
Credit Hours	Min: 2.00
Weekly Lecture Hours	Min:
Weekly Laboratory Hours	Min:
Weekly Arranged Hours	Min: 6.00 (Sem: 108)
Total Semester Instructional Hours	108.00
Load Factor	0.75

Repeatability	May be repeated 0 time(s)
Grading Methods	Letter Grade or P/NP

Transfer/General Ed
Transferability
Does NOT transfer to CSU or UC
SMC GE Area:

Program Applicability	
Designation	Credit - Degree Applicable
Proposed For	**AS Degree** -Film Production **Certificate of Achievement** -Film Production

Pre/Corequisites & Advisories
Corequisite FILM 33

Course Objectives
Upon satisfactory completion of the course, students will be able to:
1. Rehearse the actors using a variety of directorial techniques to elicit strong and believable performances from them.
2. Articulate and communicate their creative decisions with regard to camera placements, angles, movements, lenses, and lighting schemes to their cinematographers.
3. Edit or supervise the editing & overall postproduction of their short films, including sound design, music scoring, ADR (dialogue replacement), and CGI effects work.
4. Perform the full range of crew positions.
5. Plan and organize the process of submission of their films to important festivals, competitions, and other venues for exposure of their work, including the internet.
6. Demonstrate an understanding of the ethical, highly disciplined professionalism required in the film industry as exhibited on set during class.

Arranged Hours Objectives
Upon satisfactory completion of the course, students will be able to:
1. Pre-produce, produce, and post-produce a well-crafted narrative short film that can be submitted to domestic and international film festivals and that can be used as a creative portfolios submission for internships and entry-level jobs in the motion picture industry, in addition to transfers to advanced film schools and 4-year colleges that offer a Bachelor's degree in film production.

Course Content	
90%	Production and postproduction of the students' short films: preparation, rehearsal, directing, and editing of key scenes from the students' original screenplays.
10%	Screening and critiquing of students' final projects.

Total: 100%	
Arranged Hours Instructional Activities	
Methods	Critique Field Experience Field Trips Group Work Lab Observation and Demonstration Other Projects
Other Methods	Supervised on-location shoots.
Methods of Presentation	
Methods	Critique Field Experience Group Work Lab Lecture and Discussion Observation and Demonstration Projects Visiting Lecturers
Methods of Evaluation	
Methods	• 15% - Class Participation • 85% - Projects • 100% - Total
Appropriate Textbooks	
Textbooks such as the following are appropriate:	
Formatting Style	APA
Textbooks	
1. Nicholas Proferes.. *Film Directing Fundamentals: See Your Film Before Shooting*, 3rd ed. Focal Press, 2008	
2. Peter W. Rea and David K. Irving.. *Producing and Directing the Short Film and Video*, 4th ed. Focal Press, 2010, ISBN: 0240811747.	
Assignments	
Sample Assignment	
1. Students rehearse and direct a pre-approved selected scene from their original short-film screenplays. They select their crew from fellow classmates and are encouraged to bring in outside actors, preferably from SMC's Theatre Department. Each student directing a short film will have an entire class period (4 hours) devoted to the production of his/her scene. Students are required to keep a binder containing a production journal that makes note of problems and solutions,	

character analysis, and the directorial prep materials that they previously presented in class. In addition, students edit their scenes and bring them in for class viewing and critiquing.

2. After notes are given, students re-edit their scenes and bring them back for the instructor's final evaluation, along with a written summary of changes made and why. At the completion of this assignment, students will have experienced all facets of pre-production, production, and post-production in a professional environment and in relation to their own projects. This will allow them to apply the same methodology in the making of a complete short film outside of class.

Student Learning Outcomes
1. Produce short films that demonstrate advanced skill levels in film directing techniques as applied to original screenplays written by the students.
2. Apply a rigorous schedule and budget to the process of film production.

Minimum Qualification	
Minimum Qualifications:	Film Studies (Masters Required)

Library	
List of suggested materials has been given to librarian?	Yes
Library has adequate materials to support course?	Yes
Additional Comments/Information	

Attached Files
Film 33 Bibliography

Santa Monica College
New SMC Course
Expanded Course Outline for FILM 50 - Production Sound

Course Cover	
Discipline	FILM-FILM STUDIES
Course Number	50
Full Course Title	Production Sound
Catalog Course Description	This course provides a practical in-depth study of the fundamental aspects of recording and mixing production sound for film and television. Subjects include: introduction to production sound equipment, location sound recording and mixing techniques, on-set sound assessment and troubleshooting, digital audio workstation basics, along with dialogue and ADR (automated dialogue replacement) recording and editing.
Rationale	
Rationale	Sound is regarded as 51% of the emotional movie experience, so gaining a basic understanding of recording sound for picture is critical knowledge for any emerging filmmaker. This course will enhance the quality of the films being produced at Santa Monica College and will also give students the technical education they will need to secure internships and entry-level jobs in the film industry. Enrollment in this course will also facilitate academic transfer opportunities.
Proposal Information	
Proposed Start	Year: 2014 Semester: Fall
Proposed for Distance Ed	No
Proposed for Global Citizenship	No
Course Unit/Hours	
Variable Hour Exist	NO
Credit Hours	Min: 3.00
Weekly Lecture Hours	Min: 2.00 (Sem: 36)
Weekly Laboratory Hours	Min: 2.00 (Sem: 36)
Weekly Arranged	Min: 1.00 (Sem: 18)

Hours	
Total Semester Instructional Hours	90.00
Load Factor	0.88
Load Factor Rationale	Consistent with load factor of other film production courses.
Repeatability	May be repeated 0 time(s)
Grading Methods	Letter Grade or P/NP

Transfer/General Ed
Transferability
Transfers to CSU

Program Applicability	
Designation	Credit - Degree Applicable
Proposed For	**AS Degree** -Film Production **Certificate of Achievement** -Film Production

Course Objectives
Upon satisfactory completion of the course, students will be able to:
1. Prepare, set up, and operate industry standard equipment while recording clear onset or location sound.
2. Identify, express, and illustrate the sound needs of a production in efficient collaboration with all departments involved.
3. Appraise the role and collaborative efforts of production and post-production sound relating to working on set or in the studio.
4. Recognize, test, and solve the complexities involved with capturing sound on location.
5. Employ industry standard practices for capturing and mixing sound for picture.
6. Apply course concepts and techniques to audio pre-production, production, and post-production processes.

Arranged Hours Objectives
Upon satisfactory completion of the course, students will be able to:
1. Analyze, develop, and put into practice a plan to record the best possible audio regardless of film location.
2. Effectively operate location sound recording and mixing equipment.
3. Apply fundamental location sound recording and mixing techniques.
4. Record pristine location sound during film production.
5. Log, track, manage, and deliver metadata and sound files.
6. Sync and edit sound to picture utilizing industry standard equipment.

7. Identify, rerecord, and edit problematic production sound (ADR).	
Course Content	
10%	The Science of Sound: • The components of sound frequency and amplitude • Sound source and capture • Sound reflection and reverberations • Measuring sound decibels and meters
25%	Location Sound Equipment: • Microphones/windscreens • Headphones • Boom poles • Mixers • Recorders
25%	The Art of Location Sound: • Microphone selection and application • Booming Techniques • Mixing Techniques • Logging takes, file management and delivery
20%	The Role of Location Sound: • Location assessment - Evaluating the recording space: consideration for lighting and reflective surfaces. • Scene breakdown - Developing a sound recording plan around blocking and shot list. • Shot Rehearsal - Working with the production and cinematography departments. • Action! - Recording sound while filming. • Onset Etiquette - Working with the other film departments.
10%	Syncing and Editing Location Sound: • Importing and syncing audio assets using digital audio/video software. • Basic skills for editing sound to picture. • Re-recording unusable audio (ADR).
10%	• Develop critical listening skills through screening of hands-on final projects.
Total: 100%	

Lab Content	
7%	• Science of Sound • Microphones and Application
7%	• Booming Techniques • Working with the shot
7%	• Audio Signal Flow • Mixer and Recorder Operation
7%	• Camera Sound • On-set Audio Workflow
7%	• Wireless and Plant Mics • Working with Lav's
7%	• Second System Sound • Sync and Timecode
7%	• Headphone monitoring • Taps
7%	• Field Recording • Capturing Room Tone and Backgrounds
7%	• Bag vs Cart Mixing • ENG vs EFP vs Film and TV mixing
7%	• On-set Etiquette • Getting a Gig
7%	• Intro to Digital Audio Workstations (DAWs) • Working with Digital Assets
7%	• The Spotting Session • Syncing Sound and Picture
7%	• Audio Editing Basics • ADR Recording and Editing
9%	• Impromptu Shoot
Total: 100%	

Arranged Hours Instructional Activities	
Methods	Critique Field Experience Group Work Other Projects Visiting Lecturers
Other Methods	Whenever possible and in the interest of maximum synergy within the AS film-production degree program, this class would work in film shoots with other production classes offered at Santa Monica College, namely Film 31, 32, and 40 (on campus) and Film 33 (on location).
Methods of Presentation	
Methods	Critique Experiments Field Experience Field Trips Group Work Lab Lecture and Discussion Observation and Demonstration Other Projects Visiting Lecturers
Other Methods	Screening of film clips/tutorials to illustrate and complement lectures; Recording of scenes under instructor's close supervision; Screening and assessing students' edited scenes.
Methods of Evaluation	
Methods	• 20% - Class Participation The students need to engage actively in course activities. • 10% - Exams/Tests Including midterm exam. • 20% - Final exam • 25% - Group Projects Working in crews of two persons, students will rotate from mixer to boom operator sound positions while collaborating with Film 32 and 33 students on their in-class exercises. Their performance will be evaluated on preparedness, (acquiring and setting up all necessary equipment), collaboration, efficiency, respect for crew and equipment, and problem-solving ability. • 25% - Oral Presentation Each student will present a 15-minute audio story utilizing any audio elements necessary. Primary focus will be on originally recorded voice, room tone, and backgrounds. • 100% - Total

Appropriate Textbooks	
Textbooks such as the following are appropriate:	
Formatting Style	APA
Textbooks	
1. Viers, Rick. *The Location Sound Bible*, 1st ed. Michael Wiese Productions, 2012, ISBN: 9781615931200.	
Assignments	
Sample Assignment	
1. In a room with challenging acoustics, capture a scripted argument between subject "K" and "D" using a boom mic. a) Assess challenging room acoustics using discussed methods. b) Utilize learned booming techniques to achieve consistent volume. c) Ensure strong signal with no clipping of audio channel. 2. In production sound teams of two, work with other film-production students on in-class exercises to record subject ("K") while subject is being filmed on the sound stage. The subject must be boomed and lav'd with taps back to camera and producers. Review and discuss process to ensure no boom-in or boom shadow.	
Student Learning Outcomes	
1. Prepare, setup, and operate location sound equipment.	
2. Record pristine audio employing location sound microphone and mixing techniques.	
3. Collaborate with the other film production departments to ensure all work is of a high, consistent caliber.	
Minimum Qualification	
Minimum Qualifications:	Film Studies (Masters Required) - Or equivalent professional experience, in this case as a professional sound designer, supervising sound editor, and/or sound mixer.
Library	
List of suggested materials has been given to librarian?	Yes
Library has adequate materials to support course?	No
Additional Comments/Information	
A suggested bibliography reference document has already been uploaded.	
Attached Files	
Production Sound Library Production Sound Library	

Santa Monica College
New SMC Course
Expanded Course Outline for KIN PE 14C - Advanced Cross Country

Course Cover	
Discipline	KIN PE-KINESIOLOGY PHYSICAL EDUCATION
Course Number	14C
Full Course Title	Advanced Cross Country
Catalog Course Description	This course is designed for students to take the knowledge gained in the intermediate course and learn to prepare their own training regimen for a competitive cross country season. The class will also focus on the psychological aspects and physiological effects of competitive endurance running.
Rationale	
Rationale	This new course will provide the opportunity for students to learn to prepare their own training regimen for competition. This content is not included in other courses.
Proposal Information	
Proposed Start	Year: 2014 Semester: Fall
Proposed for Distance Ed	No
Proposed for Global Citizenship	No
Course Unit/Hours	
Variable Hour Exist	NO
Credit Hours	Min: 1.00
Weekly Lecture Hours	Min: 3.00 (Sem: 54)
Weekly Laboratory Hours	Min: 0
Weekly Arranged Hours	Min:
Total Semester Instructional Hours	54.00

Repeatability	May be repeated 0 time(s)
Grading Methods	Letter Grade or P/NP

Transfer/General Ed
Transferability
Transfers to UC (pending review) Transfers to CSU
CSU GE Area:
(pending review) • CSU GE Area E: Lifelong Understanding and Self-Development o E - Lifelong Understanding and Self-Development

Program Applicability	
Designation	Credit - Degree Applicable
Proposed For	**AS Degree** -Athletic Coaching **Certificate of Achievement** -Athletic Coaching

Course Objectives
Upon satisfactory completion of the course, students will be able to:
1. Design an aerobic, anaerobic and flexibility program to support competitive distance running, including micro- and macro-cycle training.
2. Compare, contrast, and practice psychological training techniques often employed by endurance athletes.
3. Design a cross country race strategy that can be adapted for regular season and championship races, as well as adapted for all types of weather and terrain conditions.
4. Demonstrate strategic pacing throughout a long distance race.
5. Analyze the physiological effects resulting from performance at different exertion levels.

Course Content	
10%	Review of Proper Mechanics and Form Drills
10%	Special Circumstance Adaptations (ie extreme heat, cold, wind etc.)
10%	Pacing strategies (including lead and middle pack running, drafting, and maintaining goal pace)
10%	Championship Racing Strategies
10%	Physiological effects of endurance training on the human body.
10%	Cross-training as needed for strength training, recovery and rehabilitation.
20%	Endurance Training Theory (including micro- and macro-cycles)
20%	Sports Psychology Training Techniques for Endurance Athletes

Total: 100%	
Methods of Presentation	
Methods	Field Trips Lecture and Discussion
Other Methods	Handouts; Demonstrations of physical techniques by the instructor, guest speakers or other athletes; Student participation in training exercises
Methods of Evaluation	
Methods	• 55% - Class Participation • 15% - Exams/Tests Pre and Post-testing to appraise both physical and psychological conditioning for competitive cross country • 15% - Final exam Written exam covering all course content • 15% - Homework Homework assignments related to designing physical, mental and tactical racing strategies. • 100% - Total
Appropriate Textbooks	
Textbooks such as the following are appropriate:	
Formatting Style	APA
Textbooks	
1. Noakes, Dr. Timothy. *Lore of Running*, 4th ed. Human Kinetics, 2002, ISBN: 978-0873229593.	
Assignments	
Sample Assignment	
1. Students are presented with a hypothetical psychological impediment and asked to develop a psychological strategy to solve the problem. 2. Students are given a cross country race course map with mileage and elevation markers. Based on this map, they are to describe tactical paces based on the initial speed of the race pack. 3. Students are taken to a hilly area. They are to run six 1-mile repeats, alternating between cross country race-pace and tempo pace. The instructor observes, gives feedback on pace, and alerts students to any necessary form corrections.	
Student Learning Outcomes	
1. Students will compare and contrast psychological training techniques to enhance training and race performance.	
2. Students will be able to analyze the physiological effects resulting from performance at different exertion levels.	

Minimum Qualification	
Minimum Qualifications:	Physical Education (Masters Required)
Library	
List of suggested materials has been given to librarian?	No
Library has adequate materials to support course?	Yes

Santa Monica College
Update (NEW/MODIFIED DE)
Expanded Course Outline for ASTRON 1 - Stellar Astronomy

Course Cover	
Discipline	ASTRON-ASTRONOMY
Course Number	1
Full Course Title	Stellar Astronomy
Catalog Course Description	This course provides a comprehensive introduction to the fascinating subject of astronomy with an emphasis on the study of the Sun and other stars. Topics covered include the motions of the sky, a survey of the history of astronomy from Kepler to Einstein, gravity, radiation and matter, astronomical instrumentation, the Sun, stars, star formation, stellar evolution, galaxies and cosmology. This course is not recommended to those who have completed Astronomy 3. Maximum credit allowed for Astronomy 1 and Astronomy 3 is one course (4 units).
Rationale	
Rationale	This will be our first online astronomy class offered at SMC.
Proposal Information	
Proposed Start	Year: 2014 Semester: Fall
Proposed for Distance Ed	Yes
Proposed for Global Citizenship	No
Course Unit/Hours	
Variable Hour Exist	NO
Credit Hours	Min: 3.00
Weekly Lecture Hours	Min: 3.00 (Sem: 54)
Weekly Laboratory Hours	Min: 0
Weekly Arranged Hours	Min:
Total Semester Instructional Hours	54.00
Repeatability	May be repeated 0 time(s)
Grading Methods	Letter Grade or P/NP
Transfer/General Ed	

Transferability
Transfers to UC Transfers to CSU
IGETC Area:
• IGETC Area 5: Physical and Biological Sciences (mark all that apply) o 5A: Physical Science
CSU GE Area:
• CSU GE Area B: Scientific Inquiry and Quantitative Reasoning (mark all that apply) o B1 - Physical Science
SMC GE Area:
• GENERAL EDUCATION PATTERN (SMC GE) o Area I: Natural Science

Program Applicability	
Designation	Credit - Degree Applicable

Course Objectives
Upon satisfactory completion of the course, students will be able to:
1. Relate our place in the Universe and the relevance of astronomy to our everyday lives.
2. Identify the various phenomena seen in the sky including, the rising and setting of the sun, moon, planets and stars, the seasons, constellation patterns, precession, and describe the basic principles of celestial navigation.
3. Describe the historical development of the concept of gravity from Kepler through Newton’s Universal Theory to Einstein’s General Theory of Relativity.
4. Describe the basic properties of electromagnetic radiation, recognize how it is emitted and absorbed by atoms and molecules and explain how it carries information across the Universe.
5. Examine the basic principles of astronomical telescopes and how they collect electromagnetic radiation from the Universe. To recognize properties of reflection, refraction, and the law of dispersion.
6. Appreciate that our Sun is a star; define its fundamental properties and its importance to life on Earth.
7. Examine the various properties that can be measured for the other, more distant stars and how they compare with our Sun.
8. Explain how stars and planets form from clouds of gas and dust in the interstellar medium.
9. Describe the lifecycles of stars (stellar evolution) from birth to death.
10. Describe the deaths of stars and the important role they play in generating the heavy elements necessary for the formations of planets and Life.
11. Appreciate that our Sun is just one of billions of other stars, along with gas and dust

making up our spiral galaxy, the Milky Way.	
12. Analyze the classification and morphology of galaxies and how they group into clusters and superclusters.	
13. Describe the current theories for the origin of the Universe and be able to explain the creation of matter and the formation of the first stars and galaxies in the early Universe. Discuss our current predictions for the future and evolution of the Universe.	
Course Content	
33%	Our Place in the Universe: Introduction, scale of the cosmos, the tools of astronomy, the Celestial Sphere, motions of the sky, gravity (Kepler, Newton, Einstein), matter and radiation, and astronomical instrumentation telescopes.
33%	Stars and Stellar Evolution: The Sun, the properties of stars (magnitudes, distances, spectra, H-R Diagram), interstellar medium and star formation, stellar evolution, and the deaths of stars
34%	Relativity, Black Holes, Galaxies and Cosmology: Relativity, White Dwarfs, Neutron Objects, Black holes, the Milky Way, galaxies, Quasars, and Cosmology.
Total: 100%	
Methods of Presentation	
Methods	Lecture and Discussion
Other Methods	Combination of lecture, discussion and audio/video presentations, demonstrations, supplemented with visits to the college planetarium.
Methods of Evaluation	
Methods	• 10% - Class Participation • 40% - Exams/Tests Two Midterm Exams • 30% - Final exam Cumulative Final Exam • 20% - Homework Weekly Homework • 100% - Total
Appropriate Textbooks	
Textbooks such as the following are appropriate:	
Formatting Style	APA
Textbooks	
1. Roger Freedman, William J. Kaufmann III and Robert Geller. *Universe*, 9th ed. W. H. Freeman, 2010	
2. Eric Chaisson and Steve McMillan. *Astronomy Today*, 6th ed. Addison-Wesley, 2008	
3. Michael A. Seeds and Dana Backman. *Foundations of Astronomy*, 11th ed. Brooks Cole, 2011	
Assignments	
Sample Assignment	

1. Students will write a short essay in response to a question such as “Describe how scientists combine observation, theory, and experiment in their study of the Universe.” 2. Students will perform calculations based on reading and lecture material and then verbally explain it to the class. Example: calculate the Earth’s equatorial rotation rate based on the sidereal day.
Student Learning Outcomes
1. Examine the various properties that can be measured for the other, more distant stars, and how they compare with our Sun.
2. Describe the lifecycles of stars (stellar evolution) from birth to death.
3. Students will be able to properly use and differentiate sign vocabulary that have multiple standard meanings and grammatical usages.

Minimum Qualification	
Minimum Qualifications:	Astronomy (Masters Required)
Library	
List of suggested materials has been given to librarian?	No
Library has adequate materials to support course?	No
Additional Comments/Information	
Distance Education Application	
Delivery Methods	Online/Web-based
Distance Education Quality	
Quality Assurance	Course objectives have not changed Course content has not changed Method of instruction meets the same standard of course quality Outside assignments meet the same standard of course quality Serves comparable number of students per section as a traditional course in the same department Required texts meet the same standard of course quality
Additional Considerations	Evaluation methods are in place to produce an annual report to the Board of Trustee on activity in offering this course or section following the guidelines to Title 5 Section 55317 (see attachment) and to review the impact of distance education on this program through the program review process specified in accreditation standard 2B.2. Determination and judgments about the equality of the distance education course were made with the full involvement of the faculty as defined by Administrative Regulation 5420 and college

	curriculum approval procedures. Adequate technology resources exist to support this course/section Library resources are accessible to students Specific expectations are set for students with respect to a minimum amount of time per week for student and homework assignments Adequately fulfills "effective contact between faculty member and student" required by Title 5. Will not affect existing or potential articulation with other colleges Special needs (i.e., texts, materials, etc.) are reasonable Complies with current access guidelines for students with disabilities
Guidelines and Questions for Curriculum Approval of a Distance Education Course Student Interactions	
Student-Instructor Interaction	There will be multiple, frequent and on-going communication between the instructor and each student via threaded discussions, email and online chats that occur throughout the course. These communications can be initiated by either the instructor or the student, as needed. The instructor will provide on-going feedback, comments and suggestions to assist and improve student performance. The instructor will also provide instructions and support as needed for course navigation. Further clarification will also be provided regarding content, exams and assignments. The instructor will also provide a virtual office and will be available to talk to students over the phone if necessary.
Student-Student Interaction	Students will participate in student-student interactions using threaded discussions. Using this asynchronous forum, students will be able to communicate with each other throughout the course regarding course material and assignments. A virtual student lounge will also be provided to encourage students to interact with each other on a more personal level.
Student-Content Interaction	Students will engage with the content regularly throughout the course. Each unit will include online lectures, video links and practice quizzes that will allow the student to assess their comprehension of the course content before they complete a graded assignment. The practice quizzes will provide immediate feedback to support different student learning styles. Students will also we asked to watch online videos and perform exercises on external web sites.

Online class activities that promote class interaction and engagement	**Brief Description**	**Percentage of Online Course Hours**
Discussion Boards	Students will be required to respond to questions posted both by the instructor and other students	20%

Online Lecture	Online PowerPoint presentations with notes and/or reading assignments from an online text along with links to external content.	20%
Videos	Students will be required to view and comment upon online videos assigned by the instructor	20%
Project Presentation	At the end of the semester, collaborative groups of students will be required to prepare a presentation on an astronomical subject of their choosing (subject to instructor approval) and upload it to eCollege. Students are expected to answer questions about their presentation from the instructor and other students.	10%
Exams	Online quizzes will be given after every unit and exams will be given after every module.	30%

Describe how content will be organized and delivered in the interest of achieving course outcomes/objectives (e.g. what are the methods of instruction being used, technologies used, approximate time schedule, necessary instructional materials.)

The course will divided in 15 weekly units. Each unit will be broken down into smaller modules. Each module will have introductory material in the form of a PowerPoint presentation and/or a reading assignment from an online text, video presentations/animations, a discussion board and a quiz. An exam will be given at the end of each unit.

At the end of the semester, students will work in groups on a project such as a PowerPoint presentation or a video presentation. Students will be required to answer questions about this from the instructor and other students,

Describe the technical qualifications an instructor would need and the support that might be necessary for this course to be delivered at a distance (e.g. the college's existing technology, CCCConfer certification, other specialized instructor training, support personnel, materials and resources, technical support, etc.)

Familiarity with e Companion/eCollege. No other specialized training or support will be required.

Describe any student support services one might want or need to integrate into the online classroom for this course (e.g. links to counseling, financial aid, bookstore, library, etc.)

Links to library databases will be provided as an integral part of the course.

Describe how the design of the course will ensure access for students with disabilities including compliance with the regulations of Section 508 of the Rehabilitation Act.

Online lecture presentations and assignments will be made accessible by incorporating design features such as alternative text, headings for data tables, and skip navigation. Whenever possible, links to additional materials that are likewise accessible will be chosen; when that is not possible, appropriate alternative accommodations will be made by the instructor.

Using one of the course objectives, describe an online lesson/activity that might be used in the course to facilitate student learning of that objective. Be sure the sample

lesson/activity includes reference to the use of online teaching tools (such as drop box or threaded discussion, or multimedia such as Articulate, Flash, Jing, etc.).

Online exercise based on Objective 12:

Galaxy Zoo

Introduction

Galaxy Zoo is an online site on which internet users help astronomers to classify large numbers of galaxies. Even though computers can be used to do this, it has been shown that the human eye is much better at judging galaxy shapes. In this lab you will create an account on the Galaxy Zoo site and attempt to classify galaxies with the rest of the class.

Instructions

1. Visit www.galaxyzoo.org
2. Click on the blue “Sign Up” button at the upper right of the window. Choose a username and then enter your EXACT SMC student email address (e.g. mouse_mickey@student.smc.edu) and choose a password to create an account.
3. Click on the blue “Sign Out” button at the upper right
4. Now log into your SMC student email account and you should see an email from no-reply@zooniverse.org. Open this email up and the click on the Galaxy Zoo link.
5. Now enter your username and password and you will be given a series of galaxies to classify. Just examine the pictures and then answer the questions at the lower right. Make sure the round Group icon is highlighted.
6. Post your experiences on the threaded discussion board for this lab.

Assessment Best Practices

30%-**Exams** - There will be an exam at the end of every unit which will be in the form of either a multiple choice test or a paper submitted online
20%-**Threaded Discussion** - Students will be expected to contribute to and respond to posted in threaded discussions placed in each unit.
20%-**Individual Projects** - Each week, students will be required to work on individual projects using resources on the internet.
5%-**Webibliography** - Every week, students will be expected to find web resources for the class and post them in the class Webibliography.
5%-**Journal** - Each week, students will be expected to post journal entries, reflecting on their experience in the class.
20%-**Group Project** - At the end of the semester, students will work in groups on a presentation and will be expected to respond to questions on it from the instructor and other students.

SANTA MONICA COLLEGE
PROGRAM OF STUDY

Film Production

Associate in Science (AS) / Certificate of Achievement

The program in Film Production will provide hands-on instruction in filmmaking/digital video production. This encompasses creative and logistical production, directing, editing, cinematography, and audio, as well as techniques for making specific types of films and/or videos, and the planning and management of film/video operations. All of the production classes infuse theory into and through the course products.

This Certificate of Achievement involves satisfactory completion of the area of emphasis (articulated below). This Associate degree involves satisfactory completion of a minimum of 60 semester units with a C average or higher, including the semester units of the area of emphasis (articulated below), fulfillment of the Global Citizenship requirement, and fulfillment of all Santa Monica College general education requirements, CSU GE, or IGETC. At least 50% of the area of emphasis units must be completed at Santa Monica College. Each course in the area of emphasis must be completed with a grade of C or higher. Additional graduation requirements for the Associate degree are available at the Transfer/Counseling Center and online at www.smc.edu/articulation.

Catalog rights dictate that a student may satisfy the requirements of a degree or certificate by completing the general education and area of emphasis requirements in effect at any time of the student's continuous enrollment. Continuous enrollment is defined as enrollment in consecutive Fall and Spring semesters until completion.

Area of Emphasis

Foundation Courses (12 units required):		**Units**
FILM 1	Film Appreciation Introduction To Cinema	3
	or	
FILM 2	History Of Motion Pictures	3
FILM 20	Beginning Scriptwriting	3
FILM 30	Production Planning For Film And Video	3
FILM 31	Introduction To Digital Filmmaking	3

Advanced Courses (12 units required):		**Units**
FILM 32	Advanced Digital Filmmaking	3
FILM 32L	Advanced Digital Filmmaking Lab	1
FILM 33	Directing The Short Film	3
FILM 33L	Directing the Short Film Lab	2
FILM 40	Cinematography	3
FILM 50	Production Sound	3

ET 31A	Digital Video Fundamentals	3

Elective Courses (minimum of 6 units required):		**Units**
FILM 7	American Cinema Crossing Cultures	3
FILM 21	Advanced Scriptwriting	3
AHIS 11	Art Appreciation Introduction To Global Visual Culture	3
ET 31B	Digital Video Editing	3
ET 40	Digital Audio Fundamentals	3
ET 60	Post Production Project	3

Total Units for Area of Emphasis: 30

Proposal to add verbiage making explicit our current practice of limiting any one single assignment to no more than 30% of a student's grade.

Currently found in our Distance Education Application in "Assessment Best Practices":

> Assessments of various forms are conducted regularly, preferably on a weekly basis. The instructor updates grades in a timely manner. Assessments designed for this course utilize methodologies appropriate for online modality. The bulk of the grade for the course is based on students' ongoing assignments: essays, tests, discussions, group and individual projects. As per current Curriculum guidelines, no singular assessment should be worth more than 30% of the course grade.

Proposed for CurricUNET window and (forthcoming) "Best Practices in Course Outlines of Record":

> Please list the approximate value of each type of assignment category. No single assignment should carry more weight than 30% of a student's course grade. If any one category is more than 30%, please use the box to specify the number (or range) of single assignments that make up that category. (For example: Exams: 50%, 2-3 Exams.) While the Course Outline of Record does allow for some individual instructor flexibility in the weight of particular assessments, the maximum weight of any ONE single assessment should not be more than 30%. The Curriculum Committee will consider exceptions to this on a case-by-case basis (for example, performance or project based courses).

FOR INFORMATIONAL PURPOSES ONLY

Article 5100: Curriculum

AR 5110 CURRICULUM COMMITTEE STRUCTURE, FUNCTIONS, RESPONSIBILITIES, MEETINGS

Title 5 § 55002 Standards and Criteria for Courses and Classes

Curriculum Committee: The Academic Senate Joint Curriculum Committee recommending the course shall be established by the mutual agreement of the Academic Senate and college and/or district administration and the academic senate. The committee shall be either a committee of the academic senate or a committee that includes faculty and is otherwise comprised in a way that is mutually agreeable to the college and/or district administration and the academic senate.

1. Committee Structure

A. The Curriculum Committee is a joint Academic Senate/administration committee in accordance with Board of Trustees Policy 2210 and the Bylaws of the SMC Academic Senate to include five administrators, fifteen regular or contract faculty members elected by area, two faculty appointments made by the Academic Senate President with the advice and consent of the full Senate, and two students. Each member has one vote.

(1) Five administrators, including those most directly concerned with curriculum are appointed by the Superintendent/President or designee. One of the administrators will be designated to serve as vice-chair to the Committee.

(2) Two students are selected according to the Bylaws of the SMC Associated Student Government.

(3) Faculty members are selected to serve on the Committee according to the Bylaws of the SMC Academic Senate.

(4) One faculty member is appointed committee chair by the Academic Senate President and represents the Senate in all committee deliberations.

(5) Non-voting liaisons to the committee may include:

- The Librarian or designee
- The Articulation Officer or designee
- The Matriculation Officer or designee
- The Associated Students President or designee.

Approved by the Curriculum Committee 10/01/03
Revised: Academic Senate approval 5/15/07, Superintendent/President approval 7/30/07
Reviewed and Revised: 7/22/08

PROPOSED ADDITION TO Senate Bylaws Appendix A:

Curriculum Committee

Membership:

A. Five (5) administrators
B. Two (2) students
C. Fifteen (15) faculty members as specified below:
    a. Thirteen (13) faculty members elected by the following departments to staggered three-year terms:
        i. Members elected by department(s):
            1. ESL, Modern Language & Culture
            2. History, Social Science
            3. ECE, Psychology
            4. Art, Dance, Music, Theater Arts
            5. Design Technology, Communication & Media Studies
            6. Counseling
            7. English
            8. Mathematics
            9. Business/CSIS
            10. Physical Science, Life Science, Earth Science
            11. Physical Science, Life Science, Earth Science
            12. Health Science, Kinesiology/PE
            13. Cosmetology, Photo/Fashion
    b. Two (2) faculty members appointed by the Academic Senate President to one-year terms as specified below:
        i. One (1) Articulation Officer if said position is a faculty position.
        ii. One (1) At-Large faculty member or Two (2) At-Large faculty members if Articulation Officer is not a faculty position.
D. One faculty Librarian shall be appointed by the Academic Senate President to serve as a non-voting member of the committee.
E. One additional faculty member is appointed by the Academic Senate President as Chair of the Committee (and votes only in the event of a tie).
F. If any seat cannot be filled with a member from the appropriate department(s), a faculty member from another department will be appointed by the Academic Senate President as an additional At-Large member.
G. Reconfiguration of the committee will be considered every three (3) years or anytime there is a reconfiguration of current departments.
H. Faculty servings as members of the Curriculum Committee:
    a. serve as curriculum committee liaisons to the departments they represent,
    b. facilitate curricular additions. deletions, and modifications originating in the departments they represent,
    c. review all curricular proposals using a college-wide perspective.

Structure/Scope:

The Committee evaluates proposed courses, changes in courses, proposed programs, and changes in the programs that comprise the Santa Monica College credit and non-credit offering. The Committee's responsibilities include compliance with state laws, maintenance of academic integrity, and dissemination and archiving of course and program information. ~~The faculty are elected by electoral areas according to Administrative Regulation (AR 5110).~~

Functions:

[Note: the functions of the Committee are outlined in Board Policy 6410 and must remain in compliance with Title 5 (Section 51022a) and California Education Code Section 78016.]

A. Makes recommendations to the Academic Senate action on existing and proposed curricula, courses, prerequisites, co-requisites, advisories and programs, after review.

B. Encourages and recommends development of new curricula and courses.

C. Assists faculty in preparing curriculum proposals to meet Title 5 Matriculation mandates and District goals and objectives as stated in Santa Monica College's mission.

D. Disseminates curricular information and recommendations to department chairs and the Academic Senate.

E. Ensures that the Santa Monica College catalog contains only those courses offered on a regular basis.

F. Performs other duties assigned by the Academic Senate President with the advice and consent of the Senate.