College Curriculum Committee Meeting Agenda
Tuesday, April 16, 2013
2:00 p.m. – 3:30 p.m.
President's Conference Room

Item	Action	Attachment	Presenter/Time
1. Minutes: March 19, 2013	Action	#4/16/13-1	Holcroft – 3 min
2. Announcements a. New Course Proposals b. Report out from Divisions c. Upcoming events d. Draft GE List for 2013-14 e. Curriculum Activity	Information	 #4/16/13-2 & 3 #4/16/13-4 #4/16/13-5 & 6	 Curr Reps - 5 min Holcroft – 3 min Nuñez - 2 min Nuñez - 2 min
3. Consent Calendar: a. General Education Applications b. Stand Alone Applications	Approval	 #4/16/13-7 thru 12 #4/16/13-13 thru 27	Holcroft - 5 min
4. New Program Applications: a. CPA Examination Preparation b. Music History & Literature	2nd Read/ Action	 #4/16/13-28 #4/16/13-29	Holcroft - 5 min
5. Prerequisites & Content Review Plan	Discussion	#4/16/13-30	Holcroft, Kuo – 10 min
6. Articulation Update a. IGETC & CSU GE applications b. CSU Prereqs for Transferable CORs	Information		Day - 10 min
7. CCC 101: Need/Justification	Info/Discussion	#4/16/13-31	Holcroft - 10 min

Consent Calendar

FH General Education:

- *Area I, Humanities* (attachments #7 & 8): PHOT 11, THTR 8
- *Area III, Natural Sciences* (attachments #9 & 10): CHEM 20, ENGR 39
- *Area VII, Lifelong Learning* (attachments #11 & 12): BIOL 8, PHED 22E,

Stand Alone: (attachments # 13-27)

- GEOG/GIST 53, LINC 57, 59, 67, 68B, 88, 89, 94, 97, NCEL 411, 412, 413, 421, 422 and 423

Attachment List:

#4/16/13-1 Draft Minutes: March 19, 2013
#4/16/13-2 New Course Proposal - C S 1M
#4/16/13-3 New Course Proposal - ESLL 250
#4/16/13-4 Draft FH GE Requirements for 2013-14
#4/16/13-5 Curriculum Activity - New, Renumbers, Inactivates & Non-Sub Changes
#4/16/13-6 Curriculum Activity - Substantial Changes
#4/16/13-27 New Program - CPA Examination Preparation App
#4/16/13-28 New Program - Music History/Literature App
#4/16/13-29 Draft Content Review Process & Forms
#4/16/13-30 Need/Justification Guide

2012 -2013 Curriculum Committee Meetings

Fall 2012 Quarter:	Winter 2013 Quarter	Spring 2013 Quarter
~~10/2/12~~	~~1/15/13~~	4/16/13
~~10/16/12~~	~~1/29/13~~	4/30/13
~~11/6/12~~	~~2/5/13~~	5/7/13
~~11/20/12~~	~~2/19/13~~	5/21/13
~~12/4/12~~	~~3/5/13~~	6/4/13
	~~3/19/13~~	6/18/13

* Standing reminder: items for inclusion on the CCC agenda are due no later than one week before the meeting

2012-2013 Curriculum Deadlines

~~*12/1/12* Deadline to submit courses to CSU for CSU GE approval.~~
~~*12/1/12* Deadline to submit courses to UC/CSU for IGETC approval.~~
~~*12/7/12* COR/Title 5 Updates for Fall 2013.~~
~~*3/1/13* Curriculum Sheet Updates for 2013-14.~~
6/1/13 Deadline to submit new/revised courses to UCOP for UC transferability
Ongoing Submission of courses for C-ID approval and course-to-course articulation with individual colleges and universities.

2012-2013 Professional Development Opportunities & Conferences of Interest

~~11/8-10/12 Next Generation STEM Learning: Investigate, Innovate, Inspire, Kansas, MO.~~
~~11/8-10/12 ASCCC Fall Plenary Session - Irvine Marriott Hotel.~~
~~2/8/12** Global Citizenship Pathway - SJSU/WVC curriculum collaboration model. President's Conference Room, 12-1 p.m. (Compass II Networking Grant)~~
~~2/28-3/2/13 General Education & Assessment: A Sea Change in Student Learning, Boston Park Plaza, Boston, MA.~~
~~4/4-6/13 Student Success & the Quality Agenda, Miami, FL.~~
~~4/11/13 CCC Course Outline Workshop, KCI Rm 4008, 12:00 p.m. - 1:30 p.m.~~
4/18-20/13 ASCCC Spring Plenary, Westin San Francisco Airport.
4/22/13 CCC Course Outline Workshop, KCI Rm 4008, 1:00 p.m. - 2:30 p.m.
5/1/13 CCC Course Outline Workshop, KCI Rm 4008, 12:00 p.m. - 1:30 p.m.
5/17/13 CCC Course Outline Workshop, KCI Rm 4008, 11:00 a.m. - 12:30 p.m.
6/13-15/13 ASCCC Faculty Leadership Institute, Sheraton Grand, Sacramento.
7/11-13/13 ASCCC Curriculum Institute, Sheraton Park Hotel, Anaheim.

Distribution:
Kathy Armstrong (PSME), Judy Baker (Dean), Rachelle Campbell (BH), Bea Cashmore (ALD), Jerry Celillo (CNSL), Dolores Davison (AS President), Bernie Day (Articulation Officer), Teresa de la Cruz (Articulation), Isaac Escoto (CNSL), John Fox (BSS), Marnie Francisco (PSME), Stephanie Franco (Evaluations), Patricia Gibbs (BSS), Brenda Hanning (BHS), Robert Hartwell (F A), Carolyn Holcroft (Faculty co-chair), Kay Jones (LIBR), Marc Knobel (PSME), Don MacNeil (P E), Jean McCarron (Instr), Kimberlee Messina (VP, Instruction, Administrator co-chair), Peter Murray (Dean, PSME), Simon Pennington (FA), Barbara Shewfelt (P E), Paul Starer (Dean, L A), Kella Svetich (L A)

Updated 2/5/13

COLLEGE CURRICULUM COMMITTEE

Committee Members - Winter 12-13

Meeting Date: 4/16/13

Co-Chairs (2)

✓	Carolyn Holcroft	7429	Vice President, Academic Senate (tiebreaker vote only)	holcroftburnscarolyn@foothill.edu
✓	Kimberlee Messina	7209	Vice President, Instruction	messinakimberlee@foothill.edu

Voting Membership-12 total; 1 vote per division

✓	Kathy Armstrong	7487	PSME	armstrongkathy@foothill.edu
F	Falk Cammin (F)	7442	L A	camminfalk@foothill.edu
✓	Rachelle Campbell (S)	7469	BH	campbellrachelle@foothill.edu
—	Bea Cashmore	7094	ALD	cashmorebeatrix@foothill.edu
✓	Jerry Cellilo	7224	CNSL	cellilojerry@fhda.edu
✓	Bernie Day	7225	Articulation	daybernie@foothill.edu
✓	Isaac Escoto	7350	CNSL	escotoisaac@foothill.edu
✓	John Fox	7419	BSS	foxjohn@fhda.edu
✓	Marnie Francisco	7420	PSME	franciscomarnie@foothill.edu
—	Patricia Gibbs	7474	BSS	gibbspatricia@foothill.edu
✓	Brenda Hanning	7466	BH	hanningbrenda@foothill.edU
✓	Robert Hartwell	7016	FA	hartwellrobert@fhda.edu
✓	Kay Jones	7602	LIBR	joneskay@foothill.edu
✓	Marc Knobel	7049	PSME	knobelmarc@foothill.edu
✓	Don MacNeil	6967	P E	macneildan@foothill.edu
✓	Simon Pennington	7015	F A	penningtonsimon@fhda.edu
✓	Barbara Shewfelt	7658	P E	shewfeltbarbara@foothill.edu
✓	Kella Svetich	7924	L A	svetichkella@foothill.edu
✓	Judy Baker	7388	Dean	bakerjudy@foothill.edu
✓	Peter Murray	7472	Dean	murraypeter@foothill.edu
✓	Paul Starer	7227	Dean	starerpaul@foothill.edu

Non-Voting Members (4)

—	Teresa de la Cruz	7638	Articulation Assistant	delacruzteresa@foothill.edu
—	Stephanie Franco	7231	Evaluations	francostephanie@foothill.edu
✓	Jean McCarron	7371	Curr/Schedule Asst.	mccarronjean@fhda.edu
✓	Cori Nuñez	7439	Curr Coordinator	nunezcori@foothill.edu
			ASFC	

Visitors:

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Paul Starer
Brenda H.
Rachelle C
Mark K.
Kathy A.
Marvin
Peter
John Fox
Jane Mura.
Jerry C.
Isaac
Bernie
Kay
Barbara.
Judy B.
Robert.
Srinin
Kimberlee
Jean & Cori
Carolyn
Ben

College Curriculum Committee
Meeting Minutes
Tuesday, March 19, 2013
2:05 p.m. – 3:34 p.m.
President's Conference Room

Item	Discussion
1. Minutes: March 5, 2013	Please correct a typo in item #4: misspelled E. Barkley's name. **M/S** (Starer/Cashmore) **Approved**.
2. Defining Families for Physical Education Across District	**Speakers: Dolores Davison, Susan Gutkind, Carolyn Holcroft, Don MacNeil, Barbara Shewfelt, Kimberlee Messina** Gutkind explained that reps from Foothill's KA met with reps from DA's PE and realized that the two groups have perceived different messages about creating "families". DA is basing their decisions on the message from the State PE Association to create as many families as they see fit where we are operating with the message we received from the State Chancellor's office and ASCCC leadership to create a conservative number families but still meet student needs. Holcroft and Davison will bring this back to DA leadership for further discussion. A motion was made to support the seven families previously identified by our Kinesiology & Athletics Division. (Pennington/Francisco) Approved. 1 abstention
3. Announcements a. New Course Proposals b. Report out from Divisions c. Upcoming events	**Speaker: Carolyn Holcroft** a. New course proposals announced. Please distribute to your constituent groups. b. No division reports. Remind your faculty of the change in due dates for new courses as they need to be to Instruction Office Review by the end of Spring quarter. c. A reminder that ASCCC Spring Plenary is fast approaching. Please plan time review the resolutions coming and make your voice heard. Your representatives will vote and need your opinion by 8:00 a.m. April 18th.
4. Consent Calendar: a. General Education Applications b. Stand Alone Applications	**Speaker: Carolyn Holcroft** a. Application for SPAN 10A (Area VI): Francisco asked for clarification regarding the use of the same content from COR listed to satisfy multiple GE criteria. Fox explained that it is very possible in a social science area that one overarching statement from COR could address multiple areas. Is the form doing the job or is it asking for too much redundancy? Committee asked for more information from the SPAN 10A faculty author. Reminded that at last meeting we voted to include room for narrative comments from faculty authors, hoped that this would add clarification to applications. Reps asked to remind faculty to reference each COR section and number specifically as they complete the GE application. Motion to approve the remainder of the Consent Calendar **M/S** (Cashmore/MacNeil) **Approved** (GE apps-PHOT 5, THTR 12A, MUS 8, SOC 23, and SA app-APPR 159). b. SA applications for NCEL courses: questions about the titles as they seem confusing. Starer explained that these course titles are very much in keeping with the norm. Comment that need/justification statement could

	also benefit from clarification. NCEL stand alone applications pulled for possible revision by faculty authors.
5. Prerequisites & Content Review Plan	**Speaker: Carolyn Holcroft** Holcroft amended plan per feedback during last discussion, committee reviewed revisions. We are required to have a plan in place to mitigate disproportionate impact if it is discovered, discussed potential interventions. CCC agreed that the plan should include Supplemental Instruction. Discussed value of adding step before implementation of a new prereq, of collecting research info re: success rates by course for students who have taken prereq classes vs. students that have not. Cellilo mentioned that diagnostic testing might also be used to identify specific issues for students as testing has been refined and developed extensively. Agreed that upon implementation of a new prereq, data re: success and impact will be collected after three years. Holcroft to revise plan accordingly and bring back to committee.
6. Minimum Proficiencies for Certificates	**Speaker: Carolyn Holcroft** We decided at a previous meeting that we would give the discipline faculty the responsibility to determine appropriate minimum proficiencies for each certificate of achievement. Kuo summarized recently collected data about all certificates (not disaggregated by topic). Cellilo suggested that we ask, "what is necessary for someone achieving a certificate from FH to function in the area for which they are being prepared?" Reps to continue fostering discussion with faculty, and make discipline faculty aware that they can request data about their discipline certificate of achievement from institutional research office.
7. Legislative update	**Speaker: Bernie Day** SB 440 - (an amendment to SB 1440) proposed, would require CCCs to offer a Transfer degree for every major offered by that district that has an approved TMC **AND** force CSUs to accept these TMC-aligned transfer degrees in every degree option for approved majors. AB 51 – This would establish a pilot program to create a model of articulation & coordination between K-12s, CC and CSUs providing students the opportunity to receive education in a STEM area for no more than $10,000 total cost to the student. SB 520 – Proposes to require CCCs (and CSUs) to accept credit for certain online courses offered by external (including for-profit) providers.
8. COR/Articulation Update	Day asked reps to share document with constituents. It summarizes recent conversation she had with UC/CSU faculty in which they highlighted issues that make it problematic to articulate our courses. Reminded reps about upcoming COR workshops.
9. New Curriculum Proposal Process	**Deferred until 4/16/13**
10. CCC 101: Need/Justification	**Deferred until 4/16/13**

Atendees: Kathy Armstrong (PSME), Judy Baker (Dean), Rachelle Campbell (BH), Bea Cashmore (ALD), Jerry Cellilo (CNSL), Dolores Davison (AS President), Bernie Day (Articulation Officer), Isaac Escoto (CNSL), John Fox (BSS), Marnie Francisco (PSME), Stephanie Franco (Evaluations), Susan Gutkin (Dean, KA), Brenda Hanning (BH), Robert Hartwell (FA), Carolyn Holcroft (Faculty co-chair), Kay Jones (LIBR), Marc Knobel (PSME), Elaine Kuo (Research), Don MacNeil (KA), Jean McCarron

(Instr), Kimberlee Messina (VP, Instruction, Administrator co-chair), Simon Pennington (FA), Katy Ripp (KA), Barbara Shewfelt (KA), Paul Starer (Dean, LA), Kella Svetich (LA)
Minutes Recorded by: C. Nuñez

Foothill College
College Curriculum Committee
New Course Proposal

This form should be completed by the faculty author as preparation to writing a new course. Your division CC rep can assist you in completing it appropriately, and will forward it to the Office of Instruction for inclusion as an announcement at the next available CCC meeting. The purpose of this form is ***interdisciplinary communication****. The responsibility to rigorously review and approve new courses remains with the divisional curriculum committees.*

Date Proposal Given to Division CCC Rep: April 2, 2013
Faculty Author: Michael Loceff

Proposed Number: C S 1M
Proposed Title: INTERMEDIATE ALGORITHM & DATA STRUCTURE METHODOLOGIES IN JAVA

Proposed Catalog Description: This course is a systematic treatment of intermediate data structures, algorithm analysis and abstract data types in the Java programming language intended for Computer Science transfer majors. Coding topics include large program software engineering design, multi-dimensional arrays, string processing, primitives, compound types, and allocation of instance and static data. Concept topics include dynamic memory, inheritance, polymorphism, hierarchies, recursion, linked-lists, stacks, queues, trees and hash tables.

Proposed Discipline: Computer Science

Proposed Need/Justification Statement: This course is a required core course for the AS-T Degree in Computer Science. This course is a restricted support course for the AS Degree in Computer Science.

To which Degree(s) or Certificate(s) would this course potentially be added? AS Computer Science, AS-T Computer Science

Comments & Other Relevant Information for Discussion: This course is designed specifically to meet the needs of the C-ID course COMP 132 for the AS-T degree in CS. Along with CS 1A, which corresponds to COMP 122, these two courses articulate 1-1 with the two programming classes, COMP 122/132, of the TMC. It can also be taken by CS (non-T) majors as a restricted support course.

Instruction Office:
Date presented at CCC:
Number assigned:
Date number assigned/notification:

FOOTHILL COLLEGE
College Curriculum Committee
New Course Proposal

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Date Proposal Given to Division CCC Rep: April 3, 2013
Faculty Author: Kella Svetich

Proposed Number: ESLL 250
Proposed Title: Rhetorical Grammar for ESLL Writers

Proposed Catalog Description:
Instruction in grammar from a rhetorical perspective (within the context of constructing paragraphs and extended texts) as it pertains to personal, academic, and professional writing. Topics include review of grammar terminology (metalanguage); study of the possible uses of various sentence patterns to achieve rhetorically successful texts; sentence conciseness and focus; clause and phrase structures used for emphasis, economy, and paragraph development; coherence strategies to produce logical connections between and among ideas in texts. Prerequisite: Eligibility for ESLL 25. Concurrent enrollment in ESLL 25, ESLL 26, ENGL 1A, ENGL 1B, or ENGL 1C strongly recommended.

Proposed Discipline: ESL

Comments & Other Relevant Information for Discussion: NA

Proposed Need/Justification Statement:
This course serves two important purposes: (1) to complement the current sequence of ESLL grammar courses by providing students practice in the rhetorical functions of grammar in the context of advanced reading and composition; and (2) to offer students supplemental grammar instruction as they complete courses culminating in the composition requirement for the AA/AS degree and/or transfer to UC/CSU.

To which Degree(s) or Certificate(s) would this course potentially be added? NA

Instruction Office:
Date presented at CCC:
Division: Department: ESLL
Number assigned:
Faculty Author: Keith Pratt
Date number assigned/notification:

3/29/13

FOOTHILL COLLEGE
GENERAL EDUCATION & GRADUATION REQUIREMENTS 2013-2014

The Foothill College general education pattern is designed to ensure that students meet the four Institutional/General Education Student Learning Outcomes:

1. **Communication:**
   Demonstrate analytical reading and writing skills including evaluation, synthesis, and research; deliver focused and coherent presentations; demonstrate active, discerning listening and speaking skills in lectures and discussions.
2. **Computation**
   Complex problem-solving skills, technology skills, computer proficiency, decision analysis (synthesis and evaluation), apply mathematical concepts and reasoning, and ability to analyze and use numerical data.
3. **Creative, Critical, and Analytical Thinking**
   Judgment and decision making, intellectual curiosity, problem solving through analysis, synthesis and evaluation, creativity, aesthetic awareness, research method, identifying and responding to a variety of learning styles and strategies.
4. **Community/Global Consciousness and Responsibility**
   Social perceptiveness, including respect, empathy, cultural awareness, and sensitivity, citizenship, ethics, interpersonal skills and personal integrity, community service, self-esteem, interest in and pursuit of lifelong learning.

Completion of the Foothill College general education pattern requires that students successfully earn a minimum of 30-35 units from the courses listed below with at least one course in Humanities, English, Natural Sciences (with lab), Social and Behavioral Sciences, Communication and Analytical Thinking, United States Cultures and Communities, and two courses in Lifelong Learning from two different academic departments. Courses may only be used in one area.

It is imperative to note that the Foothill College General Education pattern is only appropriate for students pursuing a Foothill College Associate in Arts or Associate in Science degree, but is not appropriate for students pursuing an AA-T or AS-T degree. Students planning to earn an AA-T or AS-T must complete either the IGETC or CSU-Breadth general education pattern. Note that completion of the IGETC or CSU-Breadth pattern may also be used satisfy the general education requirements for the Foothill AA/AS degree. **Because there are significant differences between the three patterns, students are strongly advised to meet with a counselor to determine which pattern will best meet the student's goals.**

I. Humanities

Arts: ART 1, 2A, 2AH, 2B, 2BH, 2C, 2CH, 2D, 2E, 2F, 2J, 4A, 5A, 5B, 36, 45B; DANC 10; F A 1; GID 1; MDIA 11; MUS 1, 2A, 2B, 2C, 2D, 2F, 7, 7D, 7E, 8, 8H; PHOT 5, 8, 8H, 10, 10H, 11H; VART 2C; WMN 15.

3/29/13

Letters: ENGL 5, 5H, 7, 7H, 12, 14, 16, 17, 18A, 22, 24, 31, 40, 40H, 41, ~~42A, 42B~~, 46A, 46B, 46C, 48A, 48B, 48C; HUMN 1A, 1B, 3, 3H, 4, 4H; JAPN 14A, 14B; PHIL 2, 20A, 20B, 20C, 24, 25; SPAN 4, 5, 6, 13A, 13B, 14A, 14B;THTR 1, 2A, 2B, 2F, 12A, 26.

II. English

ENGL 1A, 1AH, 1S & 1T; ESLL 26.

III. Natural Sciences (with laboratory)

ANTH 1 w/1L; ASTR 10A w/10L, 10B w/10L, 10BH w/10L; BIOL 9 w/9L, 10, 13, 14, 15, 23 (re#'d BTEC 10), 41: ~~BTEC 10~~; CHEM 1A, 25, 30A; GEOG 1; HORT 10; PHYS 2A, 4A, 5A.

IV. Social & Behavioral Sciences

ANTH 2A, 3, 5, 8, 12; BUSI 22, 53; CHLD 1, 2; ECON 1A, 1B, 9, 9H, 25; GEOG 2, 5, 10; HIST 4A, 4B, 4C, 4CH, 8, 9, 9H, 10, 15, 16, 16H, 17A, 17B, 17C, 18, 20; KINS 2 ~~PHED 2~~; POLI 1, 3, 3H, 9, 9H, 15, 15H; PSYC 1, 4, 10, 14, 21, 22, 25, 30, 33; SOC 1, 10, 11, 15, 19, 20, 21, 23, 30, 40; SPED 62; WMN 5, 21.

V. Communication & Analytical Thinking

COMM 1A, 1AH, 1B, 1BH, 2, 3, 4, 54A, 55; C S 1A, 1B, 1C, 2A, 2B, 2C; ENGL 1B, 1BH; MATH 1A, 1B, 1C, 10, 11, 22, 44, 48A, 48B, 48C, 57; PHIL 1, 7, 30; PSYC 7; SOC 7.

VI. United States Cultures & Communities

CHLD 51A; COMM 10, 12; ENGL 7, 7H, 12, 40, 40H; F A 2; HIST 10; MDIA 12; MUS 8; PSYC 22; SOC 8, 23; SPED 61; WMN 5.

VII. Lifelong Understanding

Students must successfully complete a total of four units or more in Lifelong Understanding from two different academic departments. For the purpose of this area, ATHL ~~ALAP~~, DANC, PHDA and PHED will be considered one academic department~~.~~

~~ALAP 52, 52X, 52Y, 60, 60X, 61, 61X, 62, 62X, 63, 63X, 64, 64X, 66, 66X, 67, 67X, 68, 70, 70X, 71, 71X, 80, 80X~~; ATHL 4, 4A, 4B, 4C, 11, 11A, 11B, 11C, 12, 12A, 12B, 12C, 21, 21A, 21B, 21C, 22, 22A, 22B, 22C, 31, 31A, 31B, 31C, 32, 32A, 32B, 32C, 33, 33A, 33B, 33C, 42, 42A, 42B, 42C, 44, 44A, 44B, 44C, 45, 45A, 45B, 45C; BIOL 9, 12; CNSL 1, 52, 72, 90; COMM 2, 10, 12, 55; CRLP 55, 70; DANC 1A, 1B, 2, 3A, 3B, 4, 5, 6, 7; HLTH 21; KINS 4, 17; LIBR 10; PHDA 16, 17, 18, 19, 20 ;PHED ~~4, 5,~~ 10A, 10B, 10C, 11A, 11B, 11C, 13, 13A, 13B, 13C, 14, ~~17A, 17B~~, 18, 18B, 18C, ~~19A,~~ 19B, 19C, 19D, 20A, 20B, 20C, 21, 21A, 21B, 21C, 21D, 21E, 22, 22A, 22B, 22C, 22E, 23A, 23B, 23C, 24, 24A, 24B, 24C, 24D, 25A, 25B, 26, 26A, 26C, 26D, 26E, 26F, 27, 27A, 27B. 27C, 28, ~~29, 30~~, 31A, 31B, 31C, 31D, 32C, 33A, 33B, ~~34A, 34B, 34C, 34D, 34E, 34F, 34G, 34H, 34J, 35A, 35B, 35C, 35D, 35E, 35F, 35G, 36~~, 36A, 36B, 36C, 37, 37A, 37B, 38A, 38B, 38C, 38D, 38E, 39, 40, 40A, 40B, 40C, 41, 41A, 41B, 41C, 42, 45, 45A, 45C, ~~45X~~, 46, 46A, 46B, 47B, 47C, 49A, 49B, ~~52, 53~~; SPED 61, ~~72.~~

Minimum proficiency: ENGL 1A, ENGL 1AH, ENGL 1S & T or ESLL 26 and MATH 57 or 105 or 108* completed with a letter grade of "C" or better.

3/29/13

*****Intermediate Algebra or equivalent means MATH 105, or mathematics placement test score indicating eligibility for a mathematics course beyond the level of MATH 105, or completion of a higher-level course with a grade of "C" or better, or completion of a bachelor degree or higher from an accredited U.S. college or university.

Curriculum Activity - New, Renumbers, Inactivations, Non-Substantial Changes

Board Item 4/1/13

NEW COURSES			1st Available to Schedule	
Div	**Course ID**	**Title**	**Qtr**	**Yr**
SS	ANTH 67A	CULTURES OF THE WORLD: ECUADOR	Sum	13
SS	ANTH 67B	CULTURES OF THE WORLD: BELIZE	Sum	13
SS	APEL 120A	ORIENTATION TO THE ELECTRICAL TRADE, CPR & FIRST AID	Sum	13
SS	APEL 121A	ELECTRON THEORY; AC & DC ELECTRICAL THEORY; NATIONAL ELECTRICAL CODE INTRODUCTION; PARALLEL & COMBINATION CIRCUITS	Sum	13
SS	APEL 122A	CODEOLOGY; NEC CODE; TEST EQUIPMENT; PIPE BENDING; BLUEPRINTS	Sum	13
SS	APEL 124A	DC/AC THEORY REVIEW; ELECTRONICS; INDUSTRIAL BLUEPRINTS; TRANSFORMERS, GROUNDING; ELECTRICAL SYSTEMS	Sum	13
SS	APIW 117	GENERAL SAFETY/OSHA 30/COMET	Sum	13
SS	APPR 166	JOB SUPERVISION	Sum	13
BH	BIOL 28	INTRODUCTION TO BIOENGINEERING	Sum	13
SS	BUSI 53A	BUSINESS COMMUNICATIONS & TECHNOLOGIES	Sum	13
SS	BUSI 59A	WEB MARKETING	Sum	13
PS	C S 18	DISCRETE MATHEMATICS	Sum	13
PS	C S 20A	PROGRAMMING IN C#	Sum	13
PS	C S 21A	PROGRAMMING IN PYTHON	Sum	13
PS	C S 22A	JAVASCRIPT FOR PROGRAMMERS	Sum	13
PS	C S 30A	INTRODUCTION TO LINUX & UNIX	Sum	13
PS	C S 30B	LINUX & UNIX SHELL PROGRAMMING	Sum	13
PS	C S 30C	LINUX & UNIX SYSTEM ADMINISTRATION	Sum	13
PS	C S 31A	INTRODUCTION TO DATABASE MANAGEMENT SYSTEMS	Sum	13
PS	C S 40A	SOFTWARE ENGINEERING METHODOLOGIES	Sum	13
PS	C S 54C	VMWARE VIEW	Sum	13
PS	C S 60A	INSTALLING & CONFIGURING WINDOWS SERVER 2012	Sum	13
PS	C S 60B	ADMINISTERING WINDOWS SERVER 2012	Sum	13
PS	C S 60C	CONFIGURING ADVANCED WINDOWS SERVER 2012 SERVICES	Sum	13
PS	C S 61A	WINDOWS 8 CONFIGURATION	Sum	13
PS	C S 63A	DEVELOPING APPLICATIONS FOR IOS	Sum	13
PS	C S 64A	WRITING APPS FOR THE ANDROID IN JAVA	Sum	13
PS	C S 80A	OPEN SOURCE CONTRIBUTION	Sum	13
PS	C S 81A	3-D GRAPHICS PROGRAMMING	Sum	13
PS	C S 82A	INTRODUCTION TO SOFTWARE QUALITY ASSURANCE	Sum	13
PS	C S 83A	INTRODUCTION TO QUANTUM COMPUTING	Sum	13
PE	DANC 12A	FOOTHILL REPERTORY DANCE COMPANY	Sum	13

Curriculum Activity - New, Renumbers, Inactivations, Non-Substantial Changes

Board Item 4/1/13

PE	DANC 12B	CHOREOGRAPHY FOR PERFORMANCE FOOTHILL REPERTORY	Sum	13
PE	DANC 12C	DANCE PRODUCTION FOOTHILL REPERTORY COMPANY	Sum	13
SS	ECON 9H	HONORS POLITICAL ECONOMY	Sum	13
PS	ENGR 25	INTRODUCTION TO FRESH WATER	Sum	13
PS	ENGR 28	INTRODUCTION TO BIOENGINEERING	Sum	13
SS	GEOG 11	INTRODUCTION TO MAPPING & SPATIAL REASONING	Sum	13
FA	GID 53B	INTERMEDIATE T-SHIRT DESIGN & GARMENT PRINTING	Sum	13
FA	GID 53C	ADVANCED T-SHIRT DESIGN & GARMENT PRINTING	Sum	13
FA	GID 57	WEB SITE DESIGN & DEVELOPMENT II	Sum	13
FA	GID 58	WEB DESIGN & DEVELOPMENT III	Sum	13
FA	GID 77	ADVANCED WEB SITE DESIGN & DEVELOPMENT	Sum	13
BH	HORT 80B	ENVIRONMENTAL HORTICULTURE WINTER SKILLS	Sum	13
BH	HORT 80C	ENVIRONMENTAL HORTICULTURE SPRING SKILL	Sum	13
BH	HORT 80D	ENVIRONMENTAL HORTICULTURE SUMMER SKILLS	Sum	13
SS	ITRN 50	INTERNSHIP	Sum	13
BH	JFS 307	FIRE FIGHTER I ACADEMY	Sum	13
BH	JFS 308A	FIRE CONTINUED PROFESSIONAL TRAINING (CPT)	Sum	13
BH	JFS 308B	FIRE CONTINUED PROFESSIONAL TRAINING 2 (CPT)	Sum	13
SS	JRYM 174A	ADVANCED WELDING	Sum	13
PE	KINS 82	PRINCIPLES OF THERAPEUTIC EXERCISE	Sum	13
PE	KINS 84	FUNCTIONAL ASPECTS OF ADAPTIVE FITNESS	Sum	13
PE	KINS 85	PRINCIPLES OF THERAPEUTIC WATER EXERCISE	Sum	13
PE	KINS 8A	THEORY & CONCEPTS OF EXERCISE PHYSIOLOGY I	Sum	13
FA	MUS 66E	PRODUCING MUSIC WITH ABLETON LIVE	Sum	13
FA	MUS 66E	PRODUCING MUSIC WITH ABLETON LIVE	Sum	13
FA	MUS 66F	PRODUCING MUSIC WITH LOGIC PRO	Sum	13
FA	MUS 81G	ADVANCED MIXING & MASTERING WITH PRO TOOLS	Sum	13
LA	NCEL 403B	TRANSITIONING TO COLLEGE ESL FOR WORKING ADULTS PART II	Sum	13
PE	PHED 11C	WATER AWARENESS	Sum	13
PE	PHED 13	BEGINNING WATER POLO	Sum	13
PE	PHED 13B	ADVANCED WATER POLO	Sum	13
PE	PHED 13C	WATER POLO - GAME SKILLS	Sum	13
PE	PHED 18	BEGINNING TAI CHI (TAIJI)	Sum	13
PE	PHED 18B	INTERMEDIATE TAI CHI (TAIJI)	Sum	13
PE	PHED 21	FOUNDATIONS OF YOGA	Sum	13
PE	PHED 21E	RESTORATIVE YOGA	Sum	13
PE	PHED 22C	CORE FLOW STRENGTH	Sum	13

Curriculum Activity - New, Renumbers, Inactivations, Non-Substantial Changes

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PE	PHED 22E	FUNCTIONAL TRAINING FOR THE ENDURANCE ATHLETE	Sum	13
PE	PHED 25B	GOLF COURSE PLAY	Sum	13
PE	PHED 26F	AEROBIC TENNIS	Sum	13
BH	PHT 62	HOSPITAL CLINICAL	Sum	13
FA	THTR 12A	STAGE & SCREEN	Sum	13
FA	THTR 46C	THEATRE DEVELOPMENT WORKSHOP III	Sum	13
FA	THTR 46D	THEATRE DEVELOPMENT WORKSHOP IV	Sum	13
FA	THTR 49D	PERFORMANCE PRODUCTION IV	Sum	13
FA	THTR 99B	TECHNICAL THEATRE IN PRODUCTION II	Sum	13
FA	THTR 99C	TECHNICAL THEATRE IN PRODUCTION III	Sum	13
FA	THTR 99D	TECHNICAL THEATRE IN PRODUCTION IV	Sum	13
FA	THTR 99F	TECHNICAL THEATRE MANAGEMENT IN PRODUCTION II	Sum	13
BH	V T 50B	CURRENT TOPICS IN VETERINARY TECHNOLOGY II	Sum	13
BH	V T 50C	CURRENT TOPICS IN VETERINARY TECHNOLOGY III	Sum	13
BH	V T 50D	CURRENT TOPICS IN VETERINARY TECHNOLOGY IV	Sum	13
BH	V T 50E	CURRENT TOPICS IN VETERINARY TECHNOLOGY V	Sum	13
BH	V T 50F	CURRENT TOPICS IN VETERINARY TECHNOLOGY VI	Sum	13

COURSE RENUMBER

Div	Old ID	Title	New ID	Eff Qtr
FA	ART 75	ETCHING & INTAGLIO PRINTING	ART 37	Sum13
GU	CNSL 50	INTRODUCTION TO COLLEGE	CNSL 5	Sum13
LA	ESLL 200A	FOUNDATIONS IN ENGLISH AS A SECOND LANGUAGE I	NCEL 411	Sum13
LA	ESLL 200B	FOUNDATIONS IN ENGLISH AS A SECOND LANGUAGE II	NCEL 412	Sum13
LA	ESLL 210A	FOUNDATIONS IN ENGLISH AS A SECOND LANGUAGE III	NCEL 421	Sum13
LA	ESLL 210B	FOUNDATIONS IN ENGLISH AS A SECOND LANGUAGE IV	NCEL 422	Sum13
SS	GERN 51	PSYCHOLOGY OF AGING	GERN 11	Sum13
SS	GERN 55	ISSUES IN DEATH, DYING & BEREAVEMENT ACROSS CULTURES	GERN 15	Sum13
FA	GID 53	BEGINNING T-SHIRT DESIGN & GARMENT PRINTING	GID 53A	Sum13
PE	PHED 51	PERFORMANCE ENHANCING SUBSTANCES IN SPORT & EXERCISE	KINS 51	Sum13
PE	PHED 62A	CLINICAL EXPERIENCES IN SPORTS MEDICINE I	KINS 62B	Sum13
PE	PHED 62A	CLINICAL EXPERIENCES IN SPORTS MEDICINE I	KINS 62A	Sum13
PE	PHED 62B	CLINICAL EXPERIENCES IN SPORTS MEDICINE II	KINS 62B	Sum13
PE	PHED 62C	CLINICAL EXPERIENCES IN SPORTS MEDICINE III	KINS 62C	Sum13
PE	PHED 62D	CLINICAL EXPERIENCES IN SPORTS MEDICINE IV	KINS 62D	Sum13
PE	PHED 62E	CLINICAL EXPERIENCES IN SPORTS MEDICINE V	KINS 62E	Sum13

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PE	SPED 50	INTRODUCTION TO ADAPTIVE FITNESS TECHNIQUES	KINS 81	Sum13
PE	SPED 57B	PHYSICAL ASPECTS OF AGING FOR THE FITNESS PROFESSIONAL	KINS 83	Sum13
PE	SPED 73	INTRODUCTION TO AQUATIC EXERCISE	KINS 55	Sum13
PE	SPED 73	INTRODUCTION TO AQUATIC EXERCISE	KINS 55	Sum13
FA	THTR 44	PRODUCTION PROJECTS I	THTR 44A	Sum13
FA	THTR 44X	PRODUCTION PROJECTS II	THTR 44B	Sum13
FA	THTR 49	REHEARSAL & PERFORMANCE	THTR 49A	Sum13
FA	THTR 49	PERFORMANCE PRODUCTION I	THTR 49A	Sum13
FA	THTR 49X	REHEARSAL & PERFORMANCE	THTR 49B	Sum13
FA	THTR 49X	PERFORMANCE PRODUCTION II	THTR 49B	Sum13
FA	THTR 49Y	PERFORMANCE PRODUCTION III	THTR 49C	Sum13
BH	V T 50	CURRENT TOPICS IN VETERINARY TECHNOLOGY I	V T 50A	Sum13
FA	VART 2A	HISTORY OF FILM 1895-1945	MDIA 2A	Sum13

INACTIVATED COURSES

			Deactivated for	
Div	**Course ID**	**Title**	**Qtr**	**Yr**
SS	GEOG 54B	SEMINAR IN SPECIALIZED APPLICATIONS OF GEOGRAPHIC INFORMATION SYSTEMS II	Sum	13
FA	THTR 38A	MOVEMENT PRACTICUM I	Sum	13
FA	THTR 38B	MOVEMENT PRACTICUM II	Sum	13
FA	THTR 38C	MOVEMENT PRACTICUM: MASK	Sum	13
FA	THTR 38E	MOVEMENT FOR THE ACTOR: STAGE COMBAT II	Sum	13
FA	THTR 44	PRODUCTION PROJECTS	Sum	13
FA	THTR 44X	PRODUCTION PROJECTS	Sum	13
FA	THTR 49Y	REHEARSAL & PERFORMANCE	Sum	13
FA	VART 2A	HISTORY OF FILM 1895-1945	Sum	13

NON-SUBSTANTIAL CHANGES

Div	**Course ID**	**Title**	**Qtr**	**Yr**
SS	ANTH 52	ARCHAEOLOGICAL FIELD METHODS	Sum	13
SS	APEL 112	RESIDENTIAL ELECTRICAL AIR CONDITIONING & REFRIGERATION; TELEPHONE SYSTEMS	Sum	13
SS	APEL 113	RESIDENTIAL ELECTRICAL SYSTEMS: BASIC SECURITY, SOLAR POWER, HOME AUTOMATION & LIFE SAFETY	Sum	13
SS	APEL 135	RESIDENTIAL ELECTRICAL ORIENTATION; SAFETY & CODE INTRODUCTION	Sum	13
SS	APEL 136	RESIDENTIAL ELECTRICAL D/C THEORY; BLUEPRINT READING	Sum	13
SS	APEL 137	RESIDENTIAL ELECTRICAL A/C THEORY & CIRCUITRY	Sum	13
SS	APEL 138	RESIDENTIAL WIRING LAYOUT & INSTALLATION	Sum	13

Curriculum Activity - New, Renumbers, Inactivations, Non-Substantial Changes

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SS	APPR 150	JOB SAFETY, OSHA, MATHEMATICS, HERITAGE & RIGGING I	Sum	13
SS	APPT 121	INTRODUCTION TO RESIDENTIAL PLUMBING, SAFETY & TOOLS	Sum	13
SS	APPT 141	SF 101 BASIC STEAMFITTING SKILLS	Sum	13
SS	APPT 142	SF 102 RELATED MATH, DRAWING & RIGGING	Sum	13
SS	APPT 143	SF 201 STEAMFITTER CUTTING & WELDING	Sum	13
SS	APRT 111	COMPUTER LITERACY FOR TRADE APPRENTICES	Sum	13
SS	APRT 156A	WELDING FOR SHEET METAL SIDING & DECKING APPRENTICES	Sum	13
SS	APRT 156B	MEASURING, DRAWING & LIFTING DEVICES FOR SHEET METAL SIDING & DECKING APPRENTICES	Sum	13
SS	APSM 130	SMQ-30 ADVANCED WELDING	Sum	13
FA	ART 37	ETCHING & INTAGLIO PRINTING	Sum	13
FA	ART 38	RELIEF PRINTING	Sum	13
BH	BIOL 12	HUMAN GENETICS	Sum	13
BH	BIOL 45	INTRODUCTION TO HUMAN NUTRITION	Sum	13
BH	BIOL 8	BASIC NUTRITION	Sum	13
BH	BIOL 9	ENVIRONMENTAL BIOLOGY	Sum	13
PS	CHEM 12C	ORGANIC CHEMISTRY	Sum	13
BH	D A 51C	ADVANCED DENTAL ASSISTING SKILLS	Sum	13
BH	D A 57	OFFICE EMERGENCY PROCEDURES	Sum	13
BH	D A 71	INFECTION CONTROL & HAZARDOUS WASTE MANAGEMENT	Sum	13
BH	D H 55A	FUNDAMENTALS OF PATHOLOGY I	Sum	13
BH	D H 55B	FUNDAMENTALS OF PATHOLOGY II	Sum	13
BH	D H 56	APPLIED PHARMACOLOGY IN DENTISTRY	Sum	13
BH	D H 59	SURVEY OF DENTISTRY	Sum	13
BH	D H 65	CLINICAL LOCAL ANESTHESIA	Sum	13
BH	D H 71	OFFICE EMERGENCY PROCEDURES	Sum	13
PE	DANC 3A	BEGINNING JAZZ DANCE	Sum	13
SS	ECON 25	INTRODUCTION TO THE GLOBAL ECONOMY	Sum	13
LA	ENGL 1C	ADVANCED COMPOSITION	Sum	13
LA	ENGL 1CH	HONORS ADVANCED COMPOSITION	Sum	13
LA	ENGL 31	LATINO/A LITERATURE	Sum	13
LA	ESLL 226	HIGH-INTERMEDIATE GRAMMAR	Sum	13
LA	ESLL 227	HIGH-INTERMEDIATE READING SKILLS	Sum	13
LA	ESLL 228	DEVELOPING LANGUAGE SKILLS FOR INTERNATIONAL STUDENTS	Sum	13
LA	ESLL 235	LISTENING/SPEAKING FOR ACADEMIC PURPOSES	Sum	13
LA	ESLL 236	ADVANCED GRAMMAR	Sum	13
LA	ESLL 237	BASIC COMPOSITION SKILLS	Sum	13
LA	ESLL 246	APPLIED GRAMMAR & EDITING SKILLS	Sum	13

Curriculum Activity - New, Renumbers, Inactivations, Non-Substantial Changes

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LA	ESLL 247	ADVANCED VOCABULARY DEVELOPMENT FOR READING & WRITING	Sum	13
LA	ESLL 26	ADVANCED COMPOSITION & READING	Sum	13
LA	ESLL 26	ADVANCED COMPOSITION & READING	Sum	13
SS	GERN 56	AGING & DIVERSITY	Sum	13
FA	GID 35	GRAPHIC DESIGN STUDIO III	Sum	13
SS	HIST 18	INTRODUCTION TO MIDDLE EASTERN CIVILIZATION	Sum	13
LA	JAPN 13A	INTERMEDIATE CONVERSATION I	Sum	13
LA	JAPN 13A	INTERMEDIATE CONVERSATION I	Sum	13
LA	JAPN 13B	INTERMEDIATE CONVERSATION II	Sum	13
LA	JAPN 14A	ADVANCED CONVERSATION I	Sum	13
SS	JRYM 166A	MARINE SHEET METAL TRAINING FOR NON-APPRENTICES I	Sum	13
FA	LINC 52	INTEGRATING TECHNOLOGY INTO SCIENCE	Sum	13
FA	LINC 86B	VIDEO PODCASTING II	Sum	13
FA	LINC 95A	CHILD SAFETY, INTERNET ETHICS & CYBER LAW	Sum	13
FA	LINC 95C	ASSESSMENT STRATEGIES FOR TECHNOLOGY INTEGRATION	Sum	13
FA	LINK 60K	GAME-BASED LEARNING	Sum	13
PS	MATH 105	INTERMEDIATE ALGEBRA	Sum	13
PS	MATH 108	ACCELERATED ALGEBRA	Sum	13
PS	MATH 12	CALCULUS FOR BUSINESS & ECONOMICS	Sum	13
PS	MATH 1A	CALCULUS	Sum	13
PS	MATH 1B	CALCULUS	Sum	13
PS	MATH 1C	CALCULUS	Sum	13
PS	MATH 1D	CALCULUS	Sum	13
PS	MATH 217	INTEGRATED STATISTICS I	Sum	13
PS	MATH 220	ELEMENTARY ALGEBRA	Sum	13
PS	MATH 2A	DIFFERENTIAL EQUATIONS	Sum	13
PS	MATH 2B	LINEAR ALGEBRA	Sum	13
PS	MATH 48A	PRECALCULUS I	Sum	13
PS	MATH 48B	PRECALCULUS II	Sum	13
PS	MATH 48C	PRECALCULUS III	Sum	13
PS	MATH 57	INTEGRATED STATISTICS II	Sum	13
FA	MUS 82D	PRO TOOLS 210M: MUSIC PRODUCTION TECHNIQUES	Sum	13
PS	NANO 10	INTRODUCTION TO NANOTECHNOLOGY	Sum	13
PE	PHED 10A	AQUATICS: LEVEL I, BEGINNING SWIMMING	Sum	13
PE	PHED 10B	AQUATICS: LEVEL II, INTERMEDIATE SWIMMING	Sum	13
PE	PHED 10C	AQUATICS LEVEL III, MASTERS SWIMMING/ADVANCED SWIM TRAINING	Sum	13
PE	PHED 11A	WATER EXERCISE	Sum	13

Curriculum Activity - New, Renumbers, Inactivations, Non-Substantial Changes

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PE	PHED 11B	AQUATIC FITNESS	Sum	13
PE	PHED 14	NUTRITIONAL ASSESSMENT & FITNESS	Sum	13
PE	PHED 20A	BEGINNING MAT PILATES	Sum	13
PE	PHED 20B	INTERMEDIATE MAT PILATES	Sum	13
PE	PHED 21A	BEGINNING HATHA YOGA	Sum	13
PE	PHED 21B	INTERMEDIATE HATHA YOGA	Sum	13
PE	PHED 21D	VINYASA FLOW YOGA	Sum	13
PE	PHED 23A	TRAIL HIKING	Sum	13
PE	PHED 23B	DAY HIKING	Sum	13
PE	PHED 23C	MULTI-DAY HIKING	Sum	13
PE	PHED 27	WALK FOR HEALTH	Sum	13
PE	PHED 27A	RUN FOR FITNESS	Sum	13
SS	PHIL 11	INTRODUCTION TO THE PHILOSOPHY OF ART	Sum	13
SS	PHIL 11	INTRODUCTION TO THE PHILOSOPHY OF ART	Sum	13
FA	PHOT 71	THE PHOTOGRAPHIC BOOK	Sum	13
FA	PHOT 74	STUDIO PHOTOGRAPHY TECHNIQUES	Sum	13
FA	PHOT 78C	DOCUMENTARY FIELD STUDY IN PHOTOGRAPHY	Sum	13
FA	PHOT 78D	MUSEUM/GALLERY FIELD STUDY IN PHOTOGRAPHY	Sum	13
FA	PHOT 78E	TECHNIQUES FIELD STUDY IN PHOTOGRAPHY	Sum	13
PS	PHYS 12	INTRODUCTION TO MODERN PHYSICS	Sum	13
PS	PSE 41	CLASS PRACTICES: MIDDLE SCHOOL SCIENCE	Sum	13
PS	PSE 42	CLASS PRACTICES: ELEMENTARY SCHOOL SCIENCE	Sum	13
SS	PSYC 1	GENERAL PSYCHOLOGY	Sum	13
SS	PSYC 55	PSYCHOLOGY OF SPORTS	Sum	13
BH	R T 53A	APPLIED RADIOGRAPHIC TECHNOLOGY I	Sum	13
BH	R T 53B	APPLIED RADIOGRAPHIC TECHNOLOGY II	Sum	13
BH	R T 53C	APPLIED RADIOGRAPHIC TECHNOLOGY III	Sum	13
BH	R T 53D	APPLIED RADIOLOGIC TECHNOLOGY IV	Sum	13
BH	RSPT 200L	INTRODUCTION TO RESPIRATORY THERAPY	Sum	13
BH	RSPT 50C	THERAPEUTICS & INTRODUCTION TO MECHANICAL VENTILATION	Sum	13
BH	RSPT 51B	RESPIRATORY PHYSIOLOGY	Sum	13
BH	RSPT 62	MANAGEMENT, RESUME & NATIONAL BOARD EXAMINATION	Sum	13
PE	SPED 55	GERIATRIC FITNESS CONCEPTS	Sum	13
FA	THTR 20A	ACTING I	Sum	13
FA	THTR 20B	ACTING II	Sum	13
FA	THTR 20C	ACTING III	Sum	13
FA	THTR 25	INTRODUCTION TO FASHION & COSTUME CONSTRUCTION	Sum	13

Curriculum Activity - New, Renumbers, Inactivations, Non-Substantial Changes

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FA	THTR 27	LIGHTING DESIGN & TECHNOLOGY	Sum	13
FA	THTR 40A	BASIC THEATRICAL MAKE-UP	Sum	13
FA	THTR 40B	THEATRICAL MAKE-UP FOR PRODUCTION	Sum	13
FA	THTR 43E	IMPROVISATION	Sum	13
FA	THTR 46B	THEATRE DEVELOPMENT WORKSHOP II	Sum	13
FA	THTR 7	INTRODUCTION TO DIRECTING	Sum	13
BH	V T 84	ANESTHESIOLOGY FOR TECHNICIANS	Sum	13

Curriculum Activity -Substantial Changes

Board Item 4/1/13

SUBSTANTIAL CHANGES			
Eff Qtr	**Course ID**	**Title**	**Change**
SS	APPR 150	JOB SAFETY, OSHA, MATHEMATICS, HERITAGE & RIGGING I	Title and description change
SS	APPR 151	OXY-ACC, ARC & PLASTIC WELDING, SOLDERING/BRAZING CERTIFICATION	Unit change from 3 to 4.5
SS	APPR 152	BASIC ARC WELDING & BASIC DRAWING	Unit change from 3 to 4.5
SS	APPR 153	PLUMBING FIXTURES, RIGGING & SCIENCE	Unit change from 3 to 4.5
SS	APPR 154	GAS & WATER SUPPLY	Unit change from 3 to 4.5
SS	APPR 155	UNIFORM PLUMBING CODE & MEDICAL GAS FOR APPRENTICES	Unit change from 3 to 4.5
SS	APPR 156	DRAINAGE; ADVANCED DRAWING	Unit change from 3 to 4.5
SS	APPR 159	ADVANCED ARC WELDING	Unit change from 3 to 4.5
SS	APPR 160A	EPA, CUSTOMER SERVICE, REFRIGERATION & ELECTRICAL	Unit change from 3 to 4.5
SS	APPR 162A	ELECTRICAL TROUBLESHOOTING, REFRIGERATION CONTROLS	Unit change from 3 to 4.5
SS	APPR 162B	COMPUTER LITERACY & PNEUMATIC CONTROLS	Unit change from 3 to 4.5
SS	APPR 162C	ELECTRONIC CONTROLS, DDC CONTROLS	Unit change from 3 to 4.5
BH	D H 57A	PERIODONTICS I	Title and description change
BH	D H 57B	PERIODONTICS II	Title and description change
BH	D H 57C	PERIODONTICS III	Title and description change
SS	GEOG 52	GEOSPATIAL DATA ACQUISITION & MANAGEMENT	Title change
FA	MUS 66D	PRODUCING MUSIC WITH LOGIC PRO	Unit change from 4 to 4.5
PE	PHED 13A	INTERMEDIATE WATER POLO	Title and description change
PE	PHED 20C	ADVANCED PILATES	Title change
PE	PHED 21C	ADVANCED HATHA YOGA	Title, description and requisite change
PE	PHED 22	BEGINNING FULL-BODY FLEXIBILITY	Title change
PE	PHED 22A	INTERMEDIATE FULL-BODY FLEXIBILITY	Title, description and requisite change
BH	RSPT 55A	MEDIATED STUDIES IN RESPIRATORY THERAPY I	Title change
BH	RSPT 55B	MEDIATED STUDIES IN RESPIRATORY THERAPY II	Title change
BH	RSPT 55C	MEDIATED STUDIES IN RESPIRATORY THERAPY III	Title and description change
BH	RSPT 55D	MEDIATED STUDIES IN RESPIRATORY THERAPY IV	Title and description change
BH	RSPT 55E	MEDIATED STUDIES IN RESPIRATORY THERAPY V	Title and description change
BH	RSPT 55F	MEDIATED STUDIES IN RESPIRATORY THERAPY VI	Title change
BH	RSPT 55G	MEDIATED STUDIES IN RESPIRATORY THERAPY VII	Title change
FA	THTR 21A	SCENERY & PROPERTY CONSTRUCTION	Description, requisite and unit change from 3 to 4
FA	THTR 21B	INTERMEDIATE SCENERY & PROPERTY CONSTRUCTION	Description and unit change from 4 to 6
FA	THTR 21C	ADVANCED SCENERY & PROPERTIES CONSTRUCTION	Description and unit change from 4 to 6
FA	THTR 38D	STAGE COMBAT	Title and unit change 1 to 2
FA	THTR 43A	SCRIPT ANALYSIS	Title and description change

Curriculum Activity -Substantial Changes

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FA	THTR 43C	FOUNDATIONS IN CLASSICAL ACTING	Description and unit change from 4 to 6
FA	THTR 46A	THEATRE DEVELOPMENT WORKSHOP I	Title and description change
FA	THTR 48A	VOCAL PRODUCTION & SPEECH	Unit change from 2 to 4
FA	THTR 56	CHARACTERIZATION	Title, requisite and unit change from 4 to 5
FA	THTR 63A	FILM & TELEVISION ACTING WORKSHOP	Description, requisite and unit change from 4 to 6
FA	THTR 81	CONTEMPORARY ISSUES IN PERFORMANCE SEMINAR	Unit change from 1 to 4

General Education Review Request
AREA I - HUMANITIES

Course Number & Title: PHOT 11: Contemporary Issues in Photography

Breadth Criteria:

At Foothill College, the primary objective of the general education requirements is to provide students with the depth and breadth of knowledge and understanding required to be independent, thinking persons who are able to interact successfully with others as educated and productive members of our diverse society. Design and implementation of the general education curriculum ensures that students have exposure to all major disciplines, understand relationships among the various disciplines, and appreciate and evaluate the collective knowledge and experiences that form our cultural and physical heritage. General education courses provide content that is broad in scope and at an introductory depth, and all require critical thinking.

A general education enables students to clarify and present their personal views as well as respect, evaluate, and be informed by the views of others. This academic program is designed to facilitate a process that enables students to reach their fullest potential as individuals, national and global citizens, and lifelong learners for the 21st century.

In order to be successful, students are expected to have achieved minimum proficiency in math (MATH 105) and English (ENGL 1A, 1AH or ESL 26) before enrolling in a GE course.

A completed pattern of general education courses provides students with opportunities to acquire, practice, apply, and become proficient in each of the core competencies listed below.

B1. Communication (analytical reading, writing, speaking, and listening skills including evaluation, synthesis, and research).
B2. Computation (application of mathematical concepts, and/or using principles of data collection and analysis to solve problems).
B3. Creative, critical, and analytical thinking (reasoning, questioning, problem solving, and consideration of consequence).
B4. Community and global consciousness and responsibility (consideration of one's role in society at the local, regional, national, and global level in the context of cultural constructs and historical and contemporary events and issues).
B5. Information competency (ability to identify an information need, to find, evaluate and use information to meet that need in a legal and ethical way) and digital literacy (to teach and assess basic computer concepts and skills so that people can use computer technology in everyday life to develop new social and economic opportunities for themselves, their families, and their communities).

Depth Criteria for Area I – Humanities:

The humanities include courses in Arts and Letters that give students knowledge and understanding of significant works of the human intellect and imagination. These works cover all the varieties of human expression through time. Knowledge of the significance of the historical and cultural context in which the works are created and interpreted expands the students' awareness of the human condition, cultivating an appreciation of human values and achievements. Humanities courses should enable students to participate in social and cultural communities associated with artistic and literary endeavors, enriching their personal and professional lives.

A course meeting the Humanities requirement incorporates a multidisciplinary approach (drawing from ***two or more*** of the following – history, literature, philosophy, religion, language, and the arts) as it addresses and explores central questions about the meaning and experience of human life.

A course meeting the Humanities General Education Requirement ***must*** help students:
H1. Acquire knowledge and understanding of significant artistic, literary, or philosophical works and the historical and cultural context in which the works were created and interpreted;
H2. Deepen their knowledge of the human condition through systematic inquiry into consciousness, values, ideas, and ideals;
H3. Develop appreciation for what is significant about human life and its creations;
H4. Make reasoned judgments that reflect ethical and aesthetic human values;
H5. Develop the ability to respond to artistic and literary works both analytically and affectively through writing as well as through other forms of artistic expression.

In addition, courses ***must*** identify how they will help students achieve ***at least two*** of the following learning outcomes:
H6. Understanding of the ambiguities, vagaries, and value inherent in human language;
H7. Appreciation of nonverbal communication to be found in the visual and performing arts;
H8. Recognition of the variety of valid interpretations of artistic expression;
H9. Appreciation of our common humanity within the context of diverse cultures;
H10. Thinking critically, including the ability to find, recognize, analyze, evaluate, and communicate ideas, information, and opinions as they relate to the products of human intellect and imagination.

General Education Review Request
AREA I - HUMANITIES

Course Number & Title: PHOT 11: Contemporary Issues in Photography

Please map each appropriate **Course Outcome/Objective** from the **Course Outline of Record** to the appropriate depth and breadth criteria.

Depth Map: Must include the following:

H1. Acquire knowledge and understanding of significant artistic, literary, or philosophical works and the historical and cultural context in which the works were created and interpreted;

Matching course objective(s):

Survey of contemporary issues in photography. Critical theory and other issues surrounding contemporary photographic practices are explored through the style and content of work by selected contemporary photographers. Censorship, copyright, appropriation, and other current issues affecting the contemporary photographer are discussed. The interplay of traditional and digital photography and how it affects our concepts of truth, reality, society, and culture.

From Section 2 Course Objectives

A. Compare and contrast various contemporary trends in photography and their affect upon aesthetics and techniques in the visual arts.
B. Trace the effects of other visual media upon photography, and the effect of photography upon other visual media.
C. Recognize the major photographic artists and gain insight into how contemporary photography has been influenced by their vision.
D. Understand better one's own abilities and potential in relation to current photographic styles and techniques.
E. Demonstrate understanding of the changing nature of photography that has accompanied the advent of electronic imaging.
F. Recognize the contributions made in this field by people from diverse cultures and backgrounds, and the contributions of photographers who work outside normal academic and artistic environments.

H2. Deepen their knowledge of the human condition through systematic inquiry into consciousness, values, ideas, and ideals;

Matching course objective(s):

From Section 1 Description

Censorship, copyright, appropriation, and other current issues affecting the contemporary photographer are discussed. The interplay of traditional and digital photography and how it affects our concepts of truth, reality, society, and culture.

From Section 2 Course Objectives

F. Recognize the contributions made in this field by people from diverse cultures and backgrounds, and the contributions of photographers who work outside normal academic and artistic environments.

H3. Develop appreciation for what is significant about human life and its creations;

Matching course objective(s):

General Education Review Request
AREA I - HUMANITIES

From Section 2 Course Objectives
Recognize the contributions made in this field by people from diverse cultures and backgrounds, and the contributions of photographers who work outside normal academic and artistic environments.

H4. Make reasoned judgments that reflect ethical and aesthetic human values;

Matching course objective(s):

From Section 1 Description
Censorship, copyright, appropriation, and other current issues affecting the contemporary photographer are discussed. The interplay of traditional and digital photography and how it affects our concepts of truth, reality, society, and culture.

From Section 4 Course Content
E. Selected issues in photographic ethics and aesthetics.

1. Censorship.
2. Electronic alteration of photographs.
3. Right of privacy, freedom of expression and political correctness.
4. Copyrights and appropriated imagery.
5. Current issues.

H5. Develop the ability to respond to artistic and literary works both analytically and affectively through writing as well as through other forms of artistic expression.

Matching course objective(s):
From Section 2 Course Objectives

A. Compare and contrast various contemporary trends in photography and their affect upon aesthetics and techniques in the visual arts.
B. Trace the effects of other visual media upon photography, and the effect of photography upon other visual media.
C. Recognize the major photographic artists and gain insight into how contemporary photography has been influenced by their vision.
D. Understand better one's own abilities and potential in relation to current photographic styles and techniques.

From Section 10: Lab Content

Lab hours consist of one or more of the following options:

A. Students will view and then analyze work by contemporary photographers.
B. Students will watch and then analyze selected films on contemporary photographers.
C. Students participate in online discussions based on questions posed in weekly lessons. This participation consists of students posting answers to written questions provided by the instructor and/or posting responses to other student comments in an online discussion forum.
D. Students will attend exhibitions (both independently and as a class). Students will then write

descriptive/analytical/experiential summaries based on their exhibit attendance.

From Section 12 Examples of Required Reading and Writing

Reading Assignments: Reading of 1 or more textbook essays for each of the lecture topics plus online lecture.
Writing Assignments: Three 1000-word essays responding to a prompt
Artist-Centered Issues
Audience-Centered Issues
Cultural Context
Criticism and Interpretation
Values in Art

Depth Map: Additionally, must include at least two of the following:

H6. Understanding of the ambiguities, vagaries, and value inherent in human language;

Matching course objective(s):

From Section 2 Course Objectives

B. Trace the effects of other visual media upon photography, and the effect of photography upon other visual media.
D. Understand better one's own abilities and potential in relation to current photographic styles and techniques.
F. Recognize the contributions made in this field by people from diverse cultures and backgrounds, and the contributions of photographers who work outside normal academic and artistic environments.

H7. Appreciation of nonverbal communication to be found in the visual and performing arts;

Matching course objective(s):

From Course Objectives Section 2:

D. Understand better one's own abilities and potential in relation to current photographic styles and techniques.

H8. Recognition of the variety of valid interpretations of artistic expression;

Matching course objective(s):

From Section 1: Course Objectives

A. Compare and contrast various contemporary trends in photography and their affect upon aesthetics and techniques in the visual arts.

From Section 4 Course Content

B.The integration and use of photographs in other media.
1.Photographic exploration and documentation in the sciences.
D. The role of the photographic artist in society.

1. Documentary and journalistic photography .
2. Photography as art.

3. Multi-media, video and alternative processes

From Course Objectives Section 2:

B. Trace the effects of other visual media upon photography, and the effect of photography upon other visual media.
F. Recognize the contributions made in this field by people from diverse cultures and backgrounds, and the contributions of photographers who work outside normal academic and artistic environments.

H9. Appreciation of our common humanity within the context of diverse cultures;

Matching course objective(s):
From Course Objectives Section 2:
F. Recognize the contributions made in this field by people from diverse cultures and backgrounds, and the contributions of photographers who work outside normal academic and artistic environments

H10. Thinking critically, including the ability to find, recognize, analyze, evaluate, and communicate ideas, information, and opinions as they relate to the products of human intellect and imagination.

Matching course objective(s):

From Course Objectives Section 2:

A. Compare and contrast various contemporary trends in photography and their affect upon aesthetics and techniques in the visual arts.
B. Trace the effects of other visual media upon photography, and the effect of photography upon other visual media.
C. Recognize the major photographic artists and gain insight into how contemporary photography has been influenced by their vision.
D. Understand better one's own abilities and potential in relation to current photographic styles and techniques.
E. Demonstrate understanding of the changing nature of photography that has accompanied the advent of electronic imaging.
F. Recognize the contributions made in this field by people from diverse cultures and backgrounds, and the contributions of photographers who work outside normal academic and artistic environments.

Breadth Mapping: please indicate all that apply (if applicable)

B1. Communication (analytical reading, writing, speaking, and listening skills including evaluation, synthesis, and research)

Matching course objective(s):

From Examples of Required Reading and Writing and Outside of Class Assignments – Section 12

Reading Assignments: Reading of 1 or more textbook essays for each of the lecture topics plus online lecture.
Writing Assignments: Three 1000-word essays responding to a prompt such as:
Address the following in a 1000 word essay on Sandy Skoglund??s image titled ?˙Radioactive Cats?Æ:
Definitions of Art

1. Is the work of art the photograph, the installation, or both?
2. If this were a documentary photograph taken by Skoglund of an actual situation, would the photograph have

the same status as art as Skoglund's photograph of the installation?

Artist-Centered Issues

1. Had Skoglund used mannequins instead of models for this work, how would it be different?

Audience-Centered Issues

1. If you hate this kind of green or gray, do you have to hate this piece?
2. Does the artist tell you something you already know about cats or does she give you new information about them?

Cultural Context

1. What does this work tell you about men and women in this society?
2. How might people from other societies view these pets?

Criticism and Interpretation

1. What does the title tell you about this work's meaning? Do you have to know the title to have the same interpretation?
2. Would a cat lover be likely to like this work or think it is good art? Would someone who is allergic to cats?

Values in Art

1. Does this work teach us a lesson about people and animals? About how life should be?
2. What kind of place besides an art museum would be a good place to show this work? Why?

B2. Computation (application of mathematical concepts, and/or using principles of data collection and analysis to solve problems).

Matching course objective(s):

B3. Clearly and precisely express their ideas in a logical and organized manner using the discipline-appropriate language

Matching course objective(s):

From Lab Content- Section 10

10. Lab Content -

Lab hours consist of one or more of the following options:

A. Students will view and then analyze work by contemporary photographers.

B. Students will watch and then analyze selected films on contemporary photographers.

C. Students will attend exhibitions (both independently and as a class). Students will then write descriptive/analytical/experiential summaries based on their exhibit attendance.

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AREA I - HUMANITIES

From Course Objectives Section 2:
B. Trace the effects of other visual media upon photography, and the effect of photography upon other visual media.

B4. Community and global consciousness and responsibility (consideration of one's role in society at the local, regional, national, and global level in the context of cultural constructs and historical and contemporary events and issues).

Matching course objective(s):

From Section 4: Course Content (Body of Knowledge)
A. The relationship of aesthetics and technology in photography.

1. An overview of early 19th Century photographic vision and processes.
2. The evolution of photographic vision and technology in the 20th Century.
3. The development of photographic processes as industrial and manufacturing tools.
4. Electronic imaging and future trends.

D. The role of the photographic artist in society.
4.The depiction and expression of current philosophical and cultural concerns through the photographic image.
5. Visits to institutions, museums, galleries, industrial and commercial sites as appropriate.
6. Contributions to photography by artists from diverse backgrounds and cultures.

From Course Objectives Section 2:

A. Compare and contrast various contemporary trends in photography and their affect upon aesthetics and techniques in the visual arts.
B. Trace the effects of other visual media upon photography, and the effect of photography upon other visual media.
C. Recognize the major photographic artists and gain insight into how contemporary photography has been influenced by their vision.
E. Demonstrate understanding of the changing nature of photography that has accompanied the advent of electronic imaging.
F. Recognize the contributions made in this field by people from diverse cultures and backgrounds, and the contributions of photographers who work outside normal academic and artistic environments.

Examples of Required Reading and Writing and Outside of Class Assignments Section 12

1. Is the work of art the photograph, the installation, or both?
2. If this were a documentary photograph taken by Skoglund of an actual situation, would the photograph have the same status as art as Skoglund's photograph of the installation?

Artist-Centered Issues

1. Had Skoglund used mannequins instead of models for this work, how would it be different?

Audience-Centered Issues

1. If you hate this kind of green or gray, do you have to hate this piece?
2. Does the artist tell you something you already know about cats or does she give you new information about them?

Cultural Context

1. What does this work tell you about men and women in this society?
2. How might people from other societies view these pets?

Criticism and Interpretation

1. What does the title tell you about this work's meaning? Do you have to know the title to have the same interpretation?
2. Would a cat lover be likely to like this work or think it is good art? Would someone who is allergic to cats?

Values in Art

1. Does this work teach us a lesson about people and animals? About how life should be?
2. What kind of place besides an art museum would be a good place to show this work? Why?

B5. Information competency (ability to identify an information need, to find, evaluate and use information to meet that need in a legal and ethical way) and digital literacy (to teach and assess basic computer concepts and skills so that people can use computer technology in everyday life to develop new social and economic opportunities for themselves, their families, and their communities).

Matching course objective(s):

From Course Objectives Section 2:

A. Demonstrate understanding of the changing nature of photography that has accompanied the advent of electronic imaging.

From Lab Content Section 10

1. Students participate in online discussions based on questions posed in weekly lessons. This participation consists of students posting answers to written questions provided by the instructor and/or posting responses to other student comments in an online discussion forum.

From Method of Evaluation Section 6

When taught via Foothill Global Access: supplemental lectures, handouts, tests, and assignments delivered via E-mail; feedback on tests and assignments delivered via E-mail; class discussion may be delivered in chat rooms, list-serves, and newsgroups.

General Education Review Request
AREA I - HUMANITIES

Requesting Faculty: Ron Herman Date: 3/18/13

Division Curr Rep: Robert Hartwell and Simon Pennington Date: 3/18/19

REVIEW COMMITTEE USE ONLY:

Review Committee Members:

Hilary Gomes, Kay Thornton

Comments:

Recommend Approval 3/26/13

Approved: Denied: CCC Co-Chair Signature: Date:

General Education Review Request
AREA I - HUMANITIES

Course Number & Title THTR 8 Multicultural Performing Arts in America

Breadth Criteria:

At Foothill College, the primary objective of the general education requirements is to provide students with the depth and breadth of knowledge and understanding required to be independent, thinking persons who are able to interact successfully with others as educated and productive members of our diverse society. Design and implementation of the general education curriculum ensures that students have exposure to all major disciplines, understand relationships among the various disciplines, and appreciate and evaluate the collective knowledge and experiences that form our cultural and physical heritage. General education courses provide content that is broad in scope and at an introductory depth, and all require critical thinking.

A general education enables students to clarify and present their personal views as well as respect, evaluate, and be informed by the views of others. This academic program is designed to facilitate a process that enables students to reach their fullest potential as individuals, national and global citizens, and lifelong learners for the 21st century.

In order to be successful, students are expected to have achieved minimum proficiency in math (MATH 105) and English (ENGL 1A, 1AH or ESL 26) before enrolling in a GE course.

A completed pattern of general education courses provides students with opportunities to acquire, practice, apply, and become proficient in each of the core competencies listed below.

B1. Communication (analytical reading, writing, speaking, and listening skills including evaluation, synthesis, and research).
B2. Computation (application of mathematical concepts, and/or using principles of data collection and analysis to solve problems).
B3. Creative, critical, and analytical thinking (reasoning, questioning, problem solving, and consideration of consequence).
B4. Community and global consciousness and responsibility (consideration of one's role in society at the local, regional, national, and global level in the context of cultural constructs and historical and contemporary events and issues).
B5. Information competency (ability to identify an information need, to find, evaluate and use information to meet that need in a legal and ethical way) and digital literacy (to teach and assess basic computer concepts and skills so that people can use computer technology in everyday life to develop new social and economic opportunities for themselves, their families, and their communities).

Depth Criteria for Area I – Humanities:

The humanities include courses in Arts and Letters that give students knowledge and understanding of significant works of the human intellect and imagination. These works cover all the varieties of human expression through time. Knowledge of the significance of the historical and cultural context in which the works are created and interpreted expands the students' awareness of the human condition, cultivating an appreciation of human values and achievements. Humanities courses should enable students to participate in social and cultural communities associated with artistic and literary endeavors, enriching their personal and professional lives.

A course meeting the Humanities requirement incorporates a multidisciplinary approach (drawing from ***two or more*** of the following – history, literature, philosophy, religion, language, and the arts) as it addresses and explores central questions about the meaning and experience of human life.

A course meeting the Humanities General Education Requirement ***must*** help students:

H1. Acquire knowledge and understanding of significant artistic, literary, or philosophical works and the historical and cultural context in which the works were created and interpreted;
H2. Deepen their knowledge of the human condition through systematic inquiry into consciousness, values, ideas, and ideals;
H3. Develop appreciation for what is significant about human life and its creations;
H4. Make reasoned judgments that reflect ethical and aesthetic human values;
H5. Develop the ability to respond to artistic and literary works both analytically and affectively through writing as well as through other forms of artistic expression.

In addition, courses ***must*** identify how they will help students achieve ***at least two*** of the following learning outcomes:

H6. Understanding of the ambiguities, vagaries, and value inherent in human language;
H7. Appreciation of nonverbal communication to be found in the visual and performing arts;
H8. Recognition of the variety of valid interpretations of artistic expression;
H9. Appreciation of our common humanity within the context of diverse cultures;
H10. Thinking critically, including the ability to find, recognize, analyze, evaluate, and communicate ideas, information, and opinions as they relate to the products of human intellect and imagination.

General Education Review Request
AREA I - HUMANITIES

Course Number & Title: THTR 8 Multicultural Performing Arts in America

Please map each appropriate **Course Outcome/Objective** from the **Course Outline of Record** to the appropriate depth and breadth criteria.

Depth Map: Must include the following:

H1. Acquire knowledge and understanding of significant artistic, literary, or philosophical works and the historical and cultural context in which the works were created and interpreted;

Matching course objective(s):
From Course Description Section 1a:
A comparative study of the important post-modern American theatre movements from the 1950's to the present day examining the specific cultural traditions of these performances.
From Course Objectives Section 2:
F. analyze the relationship between cultural movements and performances in the time frame
From Course Content Section 4:
A. Context
1. Multicultural diversity and the global influence of performance in post-WWII America to the present (focus on theatre and dance theatre)

H2. Deepen their knowledge of the human condition through systematic inquiry into consciousness, values, ideas, and ideals;

Matching course objective(s):
From Course Objectives Section 2:
G. assess the effects of art and performance as a vehicle for cultural assimilation and change

H3. Develop appreciation for what is significant about human life and its creations;

Matching course objective(s):
From Course Objectives Section 2:
E. illustrate the cultural diversity of contemporary American theatre
From Course Content Section 4:
A.1.a. Performance drawing on a renewed interest in cultural "roots" as well as mirroring the political instability beginning with the Civil Rights movement

H4. Make reasoned judgments that reflect ethical and aesthetic human values;

Matching course objective(s):
From Course Objectives Section 2:
G. assess the effects of art and performance as a vehicle for cultural assimilation and change
From Course Content Section 4:
A.1. Multicultural diversity and the global influence of performance in post-WWII America to the present (focus on theatre and dance theatre)

H5. Develop the ability to respond to artistic and literary works both analytically and affectively through writing as well as through other forms of artistic expression.

Matching course objective(s):

General Education Review Request
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From Course Objectives Section 2:
C. correlate contemporary American performance with appropriate cultural specific performance foundations
H. provide examples of the differences between performance styles developed through varied cultural heritages
From Methods of Evaluation Section 6:
A. Viewing and written analysis of performances

Depth Map: Additionally, must include at least two of the following:

H6. Understanding of the ambiguities, vagaries, and value inherent in human language;

Matching course objective(s):

H7. Appreciation of nonverbal communication to be found in the visual and performing arts;

Matching course objective(s):
From Course Objectives, Section 2:
A. identify the roots of performance and use the language of global theatre
H. provide examples of the differences between performance styles developed through varied cultural heritages

H8. Recognition of the variety of valid interpretations of artistic expression;

Matching course objective(s):
From Course Objectives, Section 2:
B. compare and contrast at least 4 major theatrical traditions within the limits of the assigned time frame

H9. Appreciation of our common humanity within the context of diverse cultures;

Matching course objective(s):
From Course Objectives, Section 2:
E. illustrate the cultural diversity of contemporary American theatre
D. relate how performance traditions were influenced by other forms of artistic expression as well as important social and political movements
From Course Content Section 4:
D3. Historical and social context; the strong traditional theatre of Japan, China and others influence the style and content of contemporary performance; the roles of family and religion on performance

H10. Thinking critically, including the ability to find, recognize, analyze, evaluate, and communicate ideas, information, and opinions as they relate to the products of human intellect and imagination.

Matching course objective(s):
From Course Objectives, Section 2:
B. compare and contrast at least 4 major theatrical traditions within the limits of the assigned time frame
From Methods of Evaluation Section 6:
A. Viewing and written analysis of performances

General Education Review Request
AREA I - HUMANITIES

Breadth Mapping: please indicate all that apply (if applicable)

B1. Communication (analytical reading, writing, speaking, and listening skills including evaluation, synthesis, and research)

Matching course objective(s):

From Course Objectives, Section 2:

B. compare and contrast at least 4 major theatrical traditions within the limits of the assigned time frame

From Methods of Evaluation Section 6:

A. Viewing and written analysis of performances

B. Individual research and oral presentations

C. Group research and presentations

From Examples of Reading and Writing Section 12:

Targeted written analyses of readings

B2. Computation (application of mathematical concepts, and/or using principles of data collection and analysis to solve problems).

Matching course objective(s):

B3. Clearly and precisely express their ideas in a logical and organized manner using the discipline-appropriate language

Matching course objective(s):

From Course Objectives, Section 2:

A. identify the roots of performance and speak the language of global theatre

From Course Content Section 4:

2. The language of the theatre and specific vocabulary essential for understanding the evolving nature of modern multicultural performances

From Methods of Evaluation Seciont 6:

A. Viewing and written analysis of performances

B4. Community and global consciousness and responsibility (consideration of one's role in society at the local, regional, national, and global level in the context of cultural constructs and historical and contemporary events and issues).

Matching course objective(s):

From Course Objectives, Section 2:

F. analyze the relationship between cultural movements and performances in the time frame

G. assess the effects of art and performance as a vehicle for cultural assimilation and change

From Course Content Section 4:

A. 1. Multicultural diversity and the global influence of performance in post-WWII America to the present (focus on theatre and dance theatre)

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B5. Information competency (ability to identify an information need, to find, evaluate and use information to meet that need in a legal and ethical way) and digital literacy (to teach and assess basic computer concepts and skills so that people can use computer technology in everyday life to develop new social and economic opportunities for themselves, their families, and their communities).

Matching course objective(s):
From Course Objectives, Section 2:
G. assess the effects of art and performance as a vehicle for cultural assimilation and change

Requesting Faculty :Bruce McLeod Date: 11/18/11 and 02/27/13

Division Curr Rep: Simon Pennington and Robert Hartwell Date: 3.3.13

REVIEW COMMITTEE USE ONLY:

Review Committee Members:

Approved Humanities sub-committee, Kay Thornton and Hilary Gomes, 3/25/13

Comments:

Approved:_____ Denied:_____ CCC Co-Chair Signature:_____Date:

General Education Review Request
AREA III - NATURAL SCIENCES

Course Number & Title: Chem 20 I Matter: An introduction to Green Chemistry and the Environment

Breadth Criteria:

At Foothill College, the primary objective of the general education requirements is to provide students with the depth and breadth of knowledge and understanding required to be independent, thinking persons who are able to interact successfully with others as educated and productive members of our diverse society. Design and implementation of the general education curriculum ensures that students have exposure to all major disciplines, understand relationships among the various disciplines, and appreciate and evaluate the collective knowledge and experiences that form our cultural and physical heritage. General education courses provide content that is broad in scope and at an introductory depth, and all require critical thinking.

A general education enables students to clarify and present their personal views as well as respect, evaluate, and be informed by the views of others. This academic program is designed to facilitate a process that enables students to reach their fullest potential as individuals, national and global citizens, and lifelong learners for the 21st century.

In order to be successful, students are expected to have achieved minimum proficiency in math (MATH 105) and English (ENGL 1A, 1AH or ESL 26) before enrolling in a GE course.

A completed pattern of general education courses provides students with opportunities to acquire, practice, apply, and become proficient in each of the core competencies listed below.

B1. Communication (analytical reading, writing, speaking, and listening skills including evaluation, synthesis, and research).
B2. Computation (application of mathematical concepts, and/or using principles of data collection and analysis to solve problems).
B3. Creative, critical, and analytical thinking (reasoning, questioning, problem solving, and consideration of consequence).
B4. Community and global consciousness and responsibility (consideration of one's role in society at the local, regional, national, and global level in the context of cultural constructs and historical and contemporary events and issues).
B5. Information competency (ability to identify an information need, to find, evaluate and use information to meet that need in a legal and ethical way) and digital literacy (to teach and assess basic computer concepts and skills so that people can use computer technology in everyday life to develop new social and economic opportunities for themselves, their families, and their communities).

Depth Criteria for Area III – Natural Sciences:

Natural science courses deal with the physical universe, the testable principles that govern its operations, its life forms, and its natural, measurable phenomena. One primary purpose of these courses is to promote an awareness of the methods of scientific inquiry and the power of scientific inquiry to describe the natural world. Emphasis is on understanding and applying the scientific method, which promotes a sense of discovery, fosters critical analysis, and encourages an understanding of the relationships between science and other human activities. A General Education natural science course should exhibit the same methods and skills used by scientists when seeking an understanding of the uncertainty and complexity of the natural world.

A successful General Education Natural Science course ***must*** promote in students:

N1. An understanding of the scientific method, including its attributes and limitations;
N2. The ability to make judgments regarding the validity of scientific evidence;
N3. An understanding of the relationship between hypothesis, experiment, fact, theory and law;
N4. The ability to use inductive and deductive reasoning;
N5. The practice of thinking critically, including evaluating ideas and contrasting opinions;
N6. The ability to evaluate, use and communicate scientific data;
N7. An introduction to current scientific theories within the field of study;
N8. Experience with laboratory activities using laboratory techniques consistent with those employed within the discipline;
N9. Experience applying recognized scientific methodology in laboratory activities.*****

Additional criterion thought to enhance a natural science course include any of the following:

N10. An appreciation of the contributions of science to modern life;
N11. An appreciation of the contributions to science of diverse people and cultures;
N12. An understanding of the interdependence of humans and their environment;
N13. A recognition of how human behavior has altered the environment;
N14. A sense of the history of science and the ideas and experiments that have led to our present understanding.

Be advised that the following criteria for a GE lab is consistent with a definition provided by the National Research Council, 2005:

"Laboratory experiences provide opportunities for students to interact directly with the material world (or with data drawn from the material world), using the tools, data collection techniques, models, and theories of science. This definition includes student interaction with astronomical databases, genome databases, databases of climatic events over long

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AREA III - NATURAL SCIENCES

time periods, and other large data sets derived directly from the material world. It does not include student manipulation or analysis of data created by a teacher to simulate direct interaction with the material world. For example, if a physics teacher presented students with a constructed data set on the weight and required pulling force for boxes pulled across desks with different surfaces and asked them to analyze these data, the students' problem-solving activity would not constitute a laboratory experience in the committee's definition."

***** To accomplish these goals a laboratory course ***must*** emphasize the methods of scientific inquiry by engaging students in:

NL15. Observation and collection of data through direct interaction with the material world;
NL16. Use of tools, data collection techniques, models and theories of science most prevalent in relevant research laboratories;
NL17. Data may be from large data sets derived directly from the material world, but may not rely exclusively on student manipulation or analysis of data created by a teacher to simulate direct interaction with the material world;
NL18. Analysis and interpretation of data;
NL19. Formulation and testing of hypotheses;
NL20. Communicating effectively through oral and/or written work;
NL21. A minimum of one collaborative activity;
NL22. A minimum of one laboratory unit or the equivalent of 33 hours of laboratory instruction per quarter.

Additional criterion thought to enhance a natural science laboratory include any of the following:
NL23. Keep accurate and complete experimental records;
NL24. Perform quantitative and qualitative measurements;
NL25. Interpret experimental results and draw reasonable conclusions;
NL26. Analyze data statistically and assess the reliability of results;
NL27. Critically evaluate the design of an experiment;
NL28. Design experiments to test hypotheses;
NL29. Work effectively in small groups and teams.

Course Number & Title: _____

Please map each appropriate component from the **Course Outline of Record** to the appropriate depth and breadth criteria. You can use any part of your COR including course outcomes, expanded content, methods of instruction/evaluation, and/or lab content.

Depth Map: Must include the following:

N1. An understanding of the scientific method, including its attributes and limitations;

Matching course component(s):

2. Course Objectives: The student will be able to: 2. Understand the scientific method and distinguish between hypotheses and scientific laws;

4. Course Content B2: Chemistry of Air: 2. Scientific method: Observations, hypotheses, theories, and scientific laws. The scientific method will be introduced as part of the lecture content and reinforced as scientific laws or discoveries are introduced throughout the quarter.

10. Lab Content A - G: The scientific method will also be reinforced in laboratory experiments and data discussions, as the students use their data and observations to characterize gases, evaluate energy yields for fuels and determine the structure of an unknown polymer.

A. Observation and Measurement Skills:
   1. Measure and record mass and volume data
   2. Make observations of physical properties of various substances
   3. Perform simple dilutions
   4. Use observations and measurements of the physical properties of an unknown substance to identify the substance.

B. Generating and Characterizing Gases Based on Chemical Properties
   1. Perform a series of chemical reactions to generate gases and test their reactivity
   2. Participate in a demonstration of smog formation and experimental exploration of its impact on a simulated ecosystem

C. Estimation of ozone concentrations in our environment
   1. Prepare and use Schoenbein paper to observe ozone levels

2. Collect data on the ozone levels at interior and exterior locations
3. Use standard scales and relative humidity data to estimate ozone concentrations
4. Explore the rationale for the differing ozone levels based on location

D. Exploring Combustion: Fuels and Energy Efficiency
1. Experimentally determine energy produced by combustion of different fuels
2. Using experimental data, compare the efficiency of the various fuels
3. Compare the theoretical and experimental energy values using percent error

E. Synthesis of Biodiesel (2 part lab)
1. Synthesize biodiesel from vegetable oil
2. Learn the use of a separatory funnel and centrifuge
3. Calculate theoretical and experimental yields
4. Demonstrate the principles of atom economy by synthesizing soap from the glycerol byproduct

F. What's in Your Water?
1. Measure key indicators of water quality such as pH, turbidity, dissolved oxygen, total and dissolved solids and specific cations/anions
2. Compare results from multiple water sources on and off campus.

G. Polymers and Plastics
1. Characterize common recyclable plastics based on chemical and physical properties and deduce the most likely structure of an unknown polymer
2. Explore the relationships between polymer structures and properties

N2. The ability to make judgments regarding the validity of scientific evidence;

Matching course component(s): 10. Lab Content A: Measurements, significant figures and error will be addressed as an individual lab session. Laboratory experiments will routinely address error analysis as part of the discussion of the student's results.

10. Lab Content A-G: The scientific method will also be reinforced in laboratory experiments and data discussions.

A. Observation and Measurement Skills:
5. Measure and record mass and volume data
6. Make observations of physical properties of various substances
7. Perform simple dilutions
8. Use observations and measurements of the physical properties of an unknown substance to identify the substance.

B. Generating and Characterizing Gases Based on Chemical Properties
3. Perform a series of chemical reactions to generate gases and test their reactivity
4. Participate in a demonstration of smog formation and experimental exploration of its impact on a simulated ecosystem

C. Estimation of ozone concentrations in our environment
5. Prepare and use Schoenbein paper to observe ozone levels
6. Collect data on the ozone levels at interior and exterior locations
7. Use standard scales and relative humidity data to estimate ozone concentrations
8. Explore the rationale for the differing ozone levels based on location

D. Exploring Combustion: Fuels and Energy Efficiency
4. Experimentally determine energy produced by combustion of different fuels
5. Using experimental data, compare the efficiency of the various fuels
6. Compare the theoretical and experimental energy values using percent error

E. Synthesis of Biodiesel (2 part lab)
5. Synthesize biodiesel from vegetable oil
6. Learn the use of a separatory funnel and centrifuge

7. Calculate theoretical and experimental yields
8. Demonstrate the principles of atom economy by synthesizing soap from the glycerol byproduct

F. What's in Your Water?
3. Measure key indicators of water quality such as pH, turbidity, dissolved oxygen, total and dissolved solids and specific cations/anions
4. Compare results from multiple water sources on and off campus.

G. Polymers and Plastics
1. Characterize common recyclable plastics based on chemical and physical properties and deduce the most likely structure of an unknown polymer
2. Explore the relationships between polymer structures and properties

In addition, this course includes a group project with a presentation on a potentially controversial environmental topic. As part of their work, students will be expected to do a critical evaluation of the available data on their data.

Course Content G: Examples of Special Topics for Group Projects (may vary from term to term)
1. Drugs as pollutants
2. Can plastics make you fat? The theory of obesogens
3. Genetic engineering: Should we fear "Frankenfoods?"
4. Growing greener food
5. Green chemistry as a business strategy
6. Innovative ideas for a greener home
7. Poisons all around us: Hazardous wastes

N3. An understanding of the relationship between hypothesis, experiment, fact, theory and law;

Matching course component(s): The scientific method will be introduced as part of the lecture content and reinforced as scientific laws or discoveries are introduced throughout the quarter.

2. Course Objectives: The student will be able to: 2. understand the scientific method and **distinguish between hypotheses and scientific laws;**

4. Course Content B2:

B. Chemistry of Air:
2. Scientific method: Observations, hypotheses, theories, and scientific laws.

10. Lab Content A-E,G: The concepts of hypothesis, theory, fact and law will also be reinforced in laboratory experiments and data discussions.

A. Observation and Measurement Skills:
1. Measure and record mass and volume data
2. Make observations of physical properties of various substances
3. Perform simple dilutions
4. Use observations and measurements of the physical properties of an unknown substance to identify the substance.

B. Generating and Characterizing Gases Based on Chemical Properties
1. Perform a series of chemical reactions to generate gases and test their reactivity
2. Participate in a demonstration of smog formation and experimental exploration of its impact on a simulated ecosystem

C. Estimation of ozone concentrations in our environment
1. Prepare and use Schoenbein paper to observe ozone levels
2. Collect data on the ozone levels at interior and exterior locations
3. Use standard scales and relative humidity data to estimate ozone concentrations
4. Explore the rationale for the differing ozone levels based on location

D. Exploring Combustion: Fuels and Energy Efficiency
1. Experimentally determine energy produced by combustion of different fuels

2. Using experimental data, compare the efficiency of the various fuels
3. Compare the theoretical and experimental energy values using percent error

F. What's in Your Water?
1. Measure key indicators of water quality such as pH, turbidity, dissolved oxygen, total and dissolved solids and specific cations/anions
2. Compare results from multiple water sources on and off campus.

G. Polymers and Plastics
1. Characterize common recyclable plastics based on chemical and physical properties and deduce the most likely structure of an unknown polymer
2. Explore the relationships between polymer structures and properties

N4. The ability to use inductive and deductive reasoning;

Matching course component(s): As an integral part of each laboratory experiment (**10. Lab Content A, B, C, D,E, F, G)**, students will be asked to evaluate their data with respect to potential sources of errors and to supportable conclusions.

A. Observation and Measurement Skills:
1. Measure and record mass and volume data
2. Make observations of physical properties of various substances
3. Perform simple dilutions
4. Use observations and measurements of the physical properties of an unknown substance to identify the substance.

B. Generating and Characterizing Gases Based on Chemical Properties
1. Perform a series of chemical reactions to generate gases and test their reactivity
2. Participate in a demonstration of smog formation and experimental exploration of its impact on a simulated ecosystem

C. Estimation of ozone concentrations in our environment
1. Prepare and use Schoenbein paper to observe ozone levels
2. Collect data on the ozone levels at interior and exterior locations
3. Use standard scales and relative humidity data to estimate ozone concentrations
4. Explore the rationale for the differing ozone levels based on location

D. Exploring Combustion: Fuels and Energy Efficiency
1. Experimentally determine energy produced by combustion of different fuels
2. Using experimental data, compare the efficiency of the various fuels
3. Compare the theoretical and experimental energy values using percent error

E. Synthesis of Biodiesel (2 part lab)
1. Synthesize biodiesel from vegetable oil
2. Learn the use of a separatory funnel and centrifuge
3. Calculate theoretical and experimental yields
4. Demonstrate the principles of atom economy by synthesizing soap from the glycerol byproduct

F. What's in Your Water?
1. Measure key indicators of water quality such as pH, turbidity, dissolved oxygen, total and dissolved solids and specific cations/anions
2. Compare results from multiple water sources on and off campus.

G. Polymers and Plastics
1. Characterize common recyclable plastics based on chemical and physical properties and deduce the most likely structure of an unknown polymer
2. Explore the relationships between polymer structures and properties

N5. The practice of thinking critically, including evaluating ideas and contrasting opinions;

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Matching course component(s):
This course includes a group project with a presentation on a potentially controversial environmental topic. As part of their work, students will be expected to do a critical evaluation of the available data on their data.
Course Content G: Examples of Special Topics for Group Projects (may vary from term to term)

1. Drugs as pollutants
2. Can plastics make you fat? The theory of obesogens
3. Genetic engineering: Should we fear "Frankenfoods?"
4. Growing greener food
5. Green chemistry as a business strategy
6. Innovative ideas for a greener home
7. Poisons all around us: Hazardous wastes

N6. The ability to evaluate, use and communicate scientific data;

Matching course component(s):
4. Course Content G: This course includes a group project on a potentially controversial environmental topic. The assignment includes a presentation by the group, summarizing their research and opinions on the available data.
Course Content G: Examples of Special Topics for Group Projects (may vary from term to term)

1. Drugs as pollutants
2. Can plastics make you fat? The theory of obesogens
3. Genetic engineering: Should we fear "Frankenfoods?"
4. Growing greener food
5. Green chemistry as a business strategy
6. Innovative ideas for a greener home
7. Poisons all around us: Hazardous wastes

N7. An introduction to current scientific theories within the field of study;

Matching course component(s):
4. Lecture Content A-G Lecture content will include presentation and critical discussion of relevant data supporting various theories of the impact of classes of chemicals on the environment. The group project will allow students gather information on a special topic and evaluate the information in the context of current theories.
Lecture Content A-G:

A. Introduction to the Principles of Green Chemistry
   1. Impact of humanity on our environment
   2. Principles of sustainability
   3. Sustainable practices we need for our future
B. Chemistry of Air
   1. Air pollutants and risk assessment
   2. Chemical change: oxygen, combustion reactions and air pollutants
   3. Air quality: what are you breathing?
C. Chemistry of Global Climate Change
   1. Carbon cycle and the greenhouse effect
   2. Human drivers of climate change: gas emissions and land use
D. Our Addiction to Energy
   1. Efficiency and environmental impact of combustions fuels: coal, petroleum and biofuels
   2. Isotopes, radioactivity and energy from nuclear fission
   3. Energy from electron transfer: redox reactions, batteries, fuel cells and renewable

sources

E. Water for Life
   1. Acid rain: sources and consequences

F. Polymers, Plastics and Our World
   1. From cradle to grave: the fate and impact of plastics on the environment

G. Examples of Special Topics for Group Projects (may vary from term to term)
   1. Drugs as pollutants
   2. Can plastics make you fat? The theory of obesogens
   3. Genetic engineering: Should we fear "Frankenfoods?"
   4. Growing greener food
   5. Green chemistry as a business strategy
   6. Innovative ideas for a greener home
   7. Poisons all around us: Hazardous wastes

N8. Experience with laboratory activities using laboratory techniques consistent with those employed within the discipline;

Matching course component(s):
The following is exemplary of the laboratory activities **(10. Lab Content A-G**):

A. Observation and Measurement Skills:
   1. Measure and record mass and volume data
   2. Make observations of physical properties of various substances
   3. Perform simple dilutions
   4. Use observations and measurements of the physical properties of an unknown substance to identify the substance.

B. Generating and Characterizing Gases Based on Chemical Properties
   2. Perform a series of chemical reactions to generate gases and test their reactivity

C. Estimation of ozone concentrations in our environment
   1. Prepare and use Schoenbein paper to observe ozone levels (or alternate data collection technique)
   3. Collect data on the ozone levels at interior and exterior locations
   4. Use standard scales and relative humidity data to estimate ozone concentrations

D. Exploring Combustion: Fuels and Energy Efficiency
   1. Experimentally determine and compare energy produced by combustion of different fuels
   3. Compare the theoretical and experimental energy values using percent error

E. Synthesis of Biodiesel (2 part lab)
   2. Learn the use of a separatory funnel and centrifuge
   3. Calculate theoretical and experimental yields
   4. Demonstrate the principles of atom economy by synthesizing soap from glycerol byproduct

F. What's in Your Water?
   1. Measure key indicators of water quality such as pH, turbidity, dissolved oxygen, total and dissolved solids and specific cations/anions
   2. Compare results from multiple water sources on and off campus.

G.Polymers and Plastics
   1. Characterize common recyclable plastics based on chemical and physical properties and deduce the most likely structure of an unknown polymer
   2. Explore the relationships between polymer structures and properties

N9. Experience applying recognized scientific methodology in laboratory activities.

Matching course component(s):
10. Lab Content A-G:

A. Observation and Measurement Skills:
   1. Measure and record mass and volume data
   2. Make observations of physical properties of various substances

3. Perform simple dilutions
4. Use observations and measurements of the physical properties of an unknown substance to identify the substance.

B. Generating and Characterizing Gases Based on Chemical Properties
1. Perform a series of chemical reactions to generate gases and test their reactivity
2. Participate in a demonstration of smog formation and experimental exploration of its impact on a simulated ecosystem

C. Estimation of ozone concentrations in our environment
1. Prepare and use Schoenbein paper to observe ozone levels
2. Collect data on the ozone levels at interior and exterior locations
3. Use standard scales and relative humidity data to estimate ozone concentrations
4. Explore the rationale for the differing ozone levels based on location

D. Exploring Combustion: Fuels and Energy Efficiency
1. Experimentally determine energy produced by combustion of different fuels
2. Using experimental data, compare the efficiency of the various fuels
3. Compare the theoretical and experimental energy values using percent error

E. Synthesis of Biodiesel (2 part lab)
1. Synthesize biodiesel from vegetable oil
2. Learn the use of a separatory funnel and centrifuge
3. Calculate theoretical and experimental yields
4. Demonstrate the principles of atom economy by synthesizing soap from the glycerol byproduct

F. What's in Your Water?
1. Measure key indicators of water quality such as pH, turbidity, dissolved oxygen, total and dissolved solids and specific cations/anions
2. Compare results from multiple water sources on and off campus.

G. Polymers and Plastics
1. Characterize common recyclable plastics based on chemical and physical properties and deduce the most likely structure of an unknown polymer
2. Explore the relationships between polymer structures and properties

Depth Map: Additionally, include any of the following:

N10. An appreciation of the contributions of science to modern life;

Matching course component(s):
4. Lecture Content A-G: The course as a whole will focus on the interrelationship between humanity's progress in science (primarily chemistry) and the impact on the environment

Lecture Content A-G:

A. Introduction to the Principles of Green Chemistry
1. Impact of humanity on our environment
2. Principles of sustainability
3. Sustainable practices we need for our future

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B. Chemistry of Air
   1. Air pollutants and risk assessment
   2. Chemical change: oxygen, combustion reactions and air pollutants
   3. Air quality: what are you breathing?

C. Chemistry of Global Climate Change
   1. Carbon cycle and the greenhouse effect
   2. Human drivers of climate change: gas emissions and land use

D. Our Addiction to Energy
   1. Efficiency and environmental impact of combustions fuels: coal, petroleum and biofuels

E. Water for Life
   1. Acid rain: sources and consequences

F. Polymers, Plastics and Our World
   1. From cradle to grave: the fate and impact of plastics on the environment

G. Examples of Special Topics for Group Projects (may vary from term to term)
   1. Drugs as pollutants
   2. Can plastics make you fat? The theory of obesogens
   3. Genetic engineering: Should we fear "Frankenfoods?"
   4. Growing greener food
   5. Green chemistry as a business strategy
   6. Innovative ideas for a greener home
   7. Poisons all around us: Hazardous wastes

N11. An appreciation of the contributions to science of diverse people and cultures;

Matching course component(s):

N12. An understanding of the interdependence of humans and their environment;

Matching course component(s): 4. Lecture Content A-G: The course as a whole will focus on the interrelationship between humanity's progress in science (primarily chemistry) and the impact on the environment

Lecture Content A-G:

A. Introduction to the Principles of Green Chemistry
   1. Impact of humanity on our environment
   2. Principles of sustainability
   3. Sustainable practices we need for our future

B. Chemistry of Air
   1. Air pollutants and risk assessment
   2. Chemical change: oxygen, combustion reactions and air pollutants
   3. Air quality: what are you breathing?

C. Chemistry of Global Climate Change
   1. Carbon cycle and the greenhouse effect
   2. Human drivers of climate change: gas emissions and land use

D. Our Addiction to Energy
   1. Efficiency and environmental impact of combustions fuels: coal, petroleum and biofuels

E. Water for Life
   1. Acid rain: sources and consequences

F. Polymers, Plastics and Our World

1. From cradle to grave: the fate and impact of plastics on the environment

G. Examples of Special Topics for Group Projects (may vary from term to term)
1. Drugs as pollutants
2. Can plastics make you fat? The theory of obesogens
3. Genetic engineering: Should we fear "Frankenfoods?"
4. Growing greener food
5. Green chemistry as a business strategy
6. Innovative ideas for a greener home
7. Poisons all around us: Hazardous wastes

N13. A recognition of how human behavior has altered the environment;

Matching course component(s): 4. Lecture Content A-G: The course as a whole will focus on the interrelationship between humanity's progress in science (primarily chemistry) and the impact on the environment. Special areas of environmental focus are air, water, energy and the proliferation of plastics.
Lecture Content A-G:

A. Introduction to the Principles of Green Chemistry
1. Impact of humanity on our environment
2. Principles of sustainability
3. Sustainable practices we need for our future

B. Chemistry of Air
1. Air pollutants and risk assessment
2. Chemical change: oxygen, combustion reactions and air pollutants
3. Air quality: what are you breathing?

C. Chemistry of Global Climate Change
1. Carbon cycle and the greenhouse effect
2. Human drivers of climate change: gas emissions and land use

D. Our Addiction to Energy
1. Efficiency and environmental impact of combustions fuels: coal, petroleum and biofuels

E. Water for Life
1. Acid rain: sources and consequences

F. Polymers, Plastics and Our World
1. From cradle to grave: the fate and impact of plastics on the environment

G. Examples of Special Topics for Group Projects (may vary from term to term)
1. Drugs as pollutants
2. Can plastics make you fat? The theory of obesogens
3. Genetic engineering: Should we fear "Frankenfoods?"
4. Growing greener food
5. Green chemistry as a business strategy
6. Innovative ideas for a greener home
7. Poisons all around us: Hazardous wastes

N14. A sense of the history of science and the ideas and experiments that have led to our present understanding.

Matching course component(s): 4. Lecture Content A-G: The course as a whole will focus on the interrelationship between humanity's progress in science (primarily chemistry) and the impact on the

environment. All topics, such as air pollution and its consequences, will be introduced with their historical context and current situations.

Lecture Content A-G:

A. Introduction to the Principles of Green Chemistry
   1. Impact of humanity on our environment
   2. Principles of sustainability
   3. Sustainable practices we need for our future

B. Chemistry of Air
   1. Air pollutants and risk assessment
   2. Chemical change: oxygen, combustion reactions and air pollutants
   3. Air quality: what are you breathing?

C. Chemistry of Global Climate Change
   1. Carbon cycle and the greenhouse effect
   2. Human drivers of climate change: gas emissions and land use

D. Our Addiction to Energy
   1. Efficiency and environmental impact of combustions fuels: coal, petroleum and biofuels

E. Water for Life
   1. Acid rain: sources and consequences

F. Polymers, Plastics and Our World
   1. From cradle to grave: the fate and impact of plastics on the environment

G. Examples of Special Topics for Group Projects (may vary from term to term)
   1. Drugs as pollutants
   2. Can plastics make you fat? The theory of obesogens
   3. Genetic engineering: Should we fear "Frankenfoods?"
   4. Growing greener food
   5. Green chemistry as a business strategy
   6. Innovative ideas for a greener home
   7. Poisons all around us: Hazardous wastes

Depth Map: Additionally, must emphasize the following:

N15. Observation and collection of data through direct interaction with the material world;

Matching course component(s):

10. Lab Content A-G: This course has a full laboratory component which emphasizes hand-on work by the students. All students will be required to successfully complete the laboratory portion of the course in order to pass the class.

The following is exemplary of the laboratory activities :

A. Observation and Measurement Skills:
   1. Measure and record mass and volume data
   2. Make observations of physical properties of various substances
   3. Perform simple dilutions
   4. Use observations and measurements of the physical properties of an unknown substance to identify the substance.

B. Generating and Characterizing Gases Based on Chemical Properties
   1. Perform a series of chemical reactions to generate gases and test their reactivity
   2. Participate in a demonstration of smog formation and experimental exploration of its impact on a simulated ecosystem

C. Estimation of ozone concentrations in our environment
   1. Prepare and use Schoenbein paper to observe ozone levels (or alternate data collection technique)

2. Collect data on the ozone levels at interior and exterior locations
3. Use standard scales and relative humidity data to estimate ozone concentrations
4. Develop a rationale for ozone levels based on sampling locations

D. Exploring Combustion: Fuels and Energy Efficiency
1. Experimentally determine and compare energy produced by combustion of different fuels
2. Compare the theoretical and experimental energy values using percent error

E. Synthesis of Biodiesel (2 part lab)
1. Synthesize biodiesel from vegetable oil
2. Learn the use of a separatory funnel and centrifuge
3. Calculate theoretical and experimental yields
4. Demonstrate the principles of atom economy by synthesizing soap from glycerol byproduct

F. What's in Your Water?
1. Measure key indicators of water quality such as pH, turbidity, dissolved oxygen, total and dissolved solids and specific cations/anions
2. Compare results from multiple water sources on and off campus.

G. Polymers and Plastics
1. Characterize common recyclable plastics based on chemical and physical properties and deduce the most likely structure of an unknown polymer
2. Explore the relationships between polymer structures and properties

N16. Use of tools, data collection techniques, models and theories of science most prevalent in relevant research laboratories;

Matching course component(s):
4. Lecture Content A-G, 10. Lab Content A-G : Lecture and lab content will include presentation and critical discussion of relevant data supporting various theories of the impact of classes of chemicals on the environment. The group project will allow students gather information on a special topic and evaluate the information in the context of current theories.
Lecture Content A-G:

A. Introduction to the Principles of Green Chemistry
1. Impact of humanity on our environment
2. Principles of sustainability
3. Sustainable practices we need for our future

B. Chemistry of Air
1. Composition of air
2. Scientific method: Observations, hypotheses, theories, and scientific laws
3. Measurements, units and conversion factors
4. Significant figures and scientific notation
5. Air pollutants and risk assessment
6. Air quality: what are you breathing?

C. Chemistry of Global Climate Change
1. Simple Lewis structures and molecular shapes
2. Carbon cycle and the greenhouse effect
3. Quantitative concepts: mass, molecules and moles
4. Human drivers of climate change: gas emissions and land use

D. Our Addiction to Energy
1. The chemistry of combustion
2. Measuring the efficiency of energy transformations
3. Energy changes at the molecular level
4. Efficiency and environmental impact of combustions fuels: coal, petroleum and biofuels
5. Isotopes, radioactivity and energy from nuclear fission
6. Energy from electron transfer: redox reactions, batteries, fuel cells and renewable

sources

E. Water for Life
   1. Unique chemical properties of water
   2. Aqueous solutions, solubility and concentration units (mass/volume; molarity)
   3. Acid rain: sources and consequences

F. Polymers, Plastics and Our World
   1. Common polymers and their characteristics
   2. From cradle to grave: the fate and impact of plastics on the environment

G. Examples of Special Topics for Group Projects (may vary from term to term)
   1. Drugs as pollutants
   2. Can plastics make you fat? The theory of obesogens
   3. Genetic engineering: Should we fear "Frankenfoods?"
   4. Growing greener food
   5. Green chemistry as a business strategy
   6. Innovative ideas for a greener home

10. Lab Content:

10. Lab Content A-G Students will have hands-on experience generating data and interpreting their results in each lab experiment. Group data will also be gathered and analyzed in some cases (such as the ozone analysis and water analysis experiments).

Observation and Measurement Skills:

1. Measure and record mass and volume data
2. Make observations of physical properties of various substances
3. Perform simple dilutions
4. Use observations and measurements of the physical properties of an unknown substance to identify the substance.

B. Generating and Characterizing Gases Based on Chemical Properties

1. Perform a series of chemical reactions to generate gases and test their reactivity
2. Participate in a demonstration of smog formation and experimental exploration of its impact on a simulated ecosystem

C. Estimation of ozone concentrations in our environment

1. Prepare and use Schoenbein paper to observe ozone levels
2. Collect data on the ozone levels at interior and exterior locations
3. Use standard scales and relative humidity data to estimate ozone concentrations
4. Explore the rationale for the differing ozone levels based on location

D. Exploring Combustion: Fuels and Energy Efficiency

1. Experimentally determine energy produced by combustion of different fuels
2. Using experimental data, compare the efficiency of the various fuels
3. Compare the theoretical and experimental energy values using percent error

E. Synthesis of Biodiesel (2 part lab)

1. Synthesize biodiesel from vegetable oil
2. Learn the use of a separatory funnel and centrifuge
3. Calculate theoretical and experimental yields
4. Demonstrate the principles of atom economy by synthesizing soap from the glycerol byproduct

F. What's in Your Water?

1. Measure key indicators of water quality such as pH, turbidity, dissolved oxygen, total and dissolved solids and specific cations/anions

2. Compare results from multiple water sources on and off campus.

G. Polymers and Plastics
1. Characterize common recyclable plastics based on chemical and physical properties and deduce the most likely structure of an unknown polymer
2. Explore the relationships between polymer structures and properties

N17. Data may be from large data sets derived directly from the material world, but may not rely exclusively on student manipulation or analysis of data created by a teacher to simulate direct interaction with the material world;

Matching course component(s): Not applicable; students will generate their own data for almost all data analyses

N18. Analysis and interpretation of data;

Matching course component(s): 10. Lab Content A-G Students will have hands-on experience generating data and interpreting their results in each lab experiment. Group data will also be gathered and analyzed in some cases (such as the ozone analysis and water analysis experiments).
Observation and Measurement Skills:
1. Measure and record mass and volume data
2. Make observations of physical properties of various substances
3. Perform simple dilutions
4. Use observations and measurements of the physical properties of an unknown substance to identify the substance.

B. Generating and Characterizing Gases Based on Chemical Properties
1. Perform a series of chemical reactions to generate gases and test their reactivity
2. Participate in a demonstration of smog formation and experimental exploration of its impact on a simulated ecosystem

C. Estimation of ozone concentrations in our environment
1. Prepare and use Schoenbein paper to observe ozone levels
2. Collect data on the ozone levels at interior and exterior locations
3. Use standard scales and relative humidity data to estimate ozone concentrations
4. Explore the rationale for the differing ozone levels based on location

D. Exploring Combustion: Fuels and Energy Efficiency
1. Experimentally determine energy produced by combustion of different fuels
2. Using experimental data, compare the efficiency of the various fuels
3. Compare the theoretical and experimental energy values using percent error

E. Synthesis of Biodiesel (2 part lab)
1. Synthesize biodiesel from vegetable oil
2. Learn the use of a separatory funnel and centrifuge
3. Calculate theoretical and experimental yields
4. Demonstrate the principles of atom economy by synthesizing soap from the glycerol byproduct

F. What's in Your Water?
1. Measure key indicators of water quality such as pH, turbidity, dissolved oxygen, total and dissolved solids and specific cations/anions
2. Compare results from multiple water sources on and off campus.

G. Polymers and Plastics
1. Characterize common recyclable plastics based on chemical and physical properties and deduce the most

likely structure of an unknown polymer
2. Explore the relationships between polymer structures and properties

N19. Formulation and testing of hypotheses;

Matching course component(s): 4. Lecture Content A, 10. Lab Content A-G The concepts of hypothesis formulation and testing will be covered in both lecture and lab lectures. As part of laboratory experiments, students will be asked to formulate hypotheses and discuss their results relative to their hypotheses.

4. Lecture Content B:

B. Chemistry of Air
1. Composition of air
2. Scientific method: Observations, hypotheses, theories, and scientific laws
3. Measurements, units and conversion factors
4. Significant figures and scientific notation

10. Lab Content A-G:

A. Observation and Measurement Skills:
1. Measure and record mass and volume data
2. Make observations of physical properties of various substances
3. Perform simple dilutions
4. Use observations and measurements of the physical properties of an unknown substance to identify the substance.

B. Generating and Characterizing Gases Based on Chemical Properties
1. Perform a series of chemical reactions to generate gases and test their reactivity
2. Participate in a demonstration of smog formation and experimental exploration of its impact on a simulated ecosystem

C. Estimation of ozone concentrations in our environment
1. Prepare and use Schoenbein paper to observe ozone levels
2. Collect data on the ozone levels at interior and exterior locations
3. Use standard scales and relative humidity data to estimate ozone concentrations
4. Explore the rationale for the differing ozone levels based on location

D. Exploring Combustion: Fuels and Energy Efficiency
1. Experimentally determine energy produced by combustion of different fuels
2. Using experimental data, compare the efficiency of the various fuels
3. Compare the theoretical and experimental energy values using percent error

E. Synthesis of Biodiesel (2 part lab)
1. Synthesize biodiesel from vegetable oil
2. Learn the use of a separatory funnel and centrifuge
3. Calculate theoretical and experimental yields
4. Demonstrate the principles of atom economy by synthesizing soap from the glycerol byproduct

F. What's in Your Water?
1. Measure key indicators of water quality such as pH, turbidity, dissolved oxygen, total and dissolved solids and specific cations/anions
2. Compare results from multiple water sources on and off campus.

G. Polymers and Plastics
1. Characterize common recyclable plastics based on chemical and physical properties and deduce the most likely structure of an unknown polymer
2. Explore the relationships between polymer structures and properties

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N20. Communicating effectively through oral and/or written work;

Matching course component(s): 4. Lecture Content G: Students will participate in a group project with a presentation on a potentially controversial environmental topic. As part of their work, students will be expected to do a critical evaluation of the available data on their topic, presenting and evaluating contrasting opinions in both written and oral formats.

G. Examples of Special Topics for Group Projects (may vary from term to term)
1. Drugs as pollutants
2. Can plastics make you fat? The theory of obesogens
3. Genetic engineering: Should we fear "Frankenfoods?"
4. Growing greener food
5. Green chemistry as a business strategy
6. Innovative ideas for a greener home
7. Poisons all around us: Hazardous wastes

N21. A minimum of one collaborative activity;

Matching course component(s): **4. Lecture Content G:** Students will participate in a group project with a presentation on a potentially controversial environmental topic. As part of their work, students will be expected to do a critical evaluation of the available data on their topic, presenting and evaluating contrasting opinions in both written and oral formats.

G. Examples of Special Topics for Group Projects (may vary from term to term)
1. Drugs as pollutants
2. Can plastics make you fat? The theory of obesogens
3. Genetic engineering: Should we fear "Frankenfoods?"
4. Growing greener food
5. Green chemistry as a business strategy
6. Innovative ideas for a greener home
7. Poisons all around us: Hazardous wastes

10. Lab Content B,D,F In the laboratory component, students will work in pairs or as a small group for data analysis for selected labs.

B. Generating and Characterizing Gases Based on Chemical Properties
1. Practice balancing simple chemical equations
2. Perform a series of chemical reactions to generate gases and test their reactivity
3. Participate in a demonstration of smog formation and experimental exploration of its impact on a simulated ecosystem

C. Estimation of ozone concentrations in our environment
1. Prepare and use Schoenbein paper to observe ozone levels
2. Collect data on the ozone levels at interior and exterior locations
3. Use standard scales and relative humidity data to estimate ozone concentrations
4. Explore the rationale for the differing ozone levels based on location

D. Exploring Combustion: Fuels and Energy Efficiency
1. Experimentally determine energy produced by combustion of different fuels
2. Using experimental data, compare the efficiency of the various fuels
3. Compare the theoretical and experimental energy values using percent error

F. What's in Your Water?
1. Measure key indicators of water quality such as pH, turbidity, dissolved oxygen, total and dissolved solids and specific cations/anions
2. Compare results from multiple water sources on and off campus.

N22. A minimum of one laboratory unit or the equivalent of 33 hours of laboratory instruction per quarter.

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Matching course component(s):
The course will include 1 h laboratory lecture instruction and 2 hours of in-laboratory work each week.

Depth Map: Additionally, include any of the following:

N23. Keep accurate and complete experimental records;

Matching course component(s): 10. Lab Content A-G Students will be required to record laboratory data with correct significant figures and complete all calculations showing the correct set-up on data pages for laboratory experiments.

A. Observation and Measurement Skills:
1. Measure and record mass and volume data
2. Make observations of physical properties of various substances
3. Perform simple dilutions
4. Use observations and measurements of the physical properties of an unknown substance to identify the substance.

B. Generating and Characterizing Gases Based on Chemical Properties
1. Perform a series of chemical reactions to generate gases and test their reactivity

C. Estimation of ozone concentrations in our environment
Prepare and use Schoenbein paper to observe ozone levels (or alternate data collection technique)
Collect data on the ozone levels at interior and exterior locations
Use standard scales and relative humidity data to estimate ozone concentrations
Develop a rationale for ozone levels based on sampling locations

D. Exploring Combustion: Fuels and Energy Efficiency
Experimentally determine and compare energy produced by combustion of different fuels
Compare the theoretical and experimental energy values using percent error

E. Synthesis of Biodiesel (2 part lab)
Synthesize biodiesel from vegetable oil
Learn the use of a separatory funnel and centrifuge
Calculate theoretical and experimental yields

F. What's in Your Water?
Measure key indicators of water quality such as pH, turbidity, dissolved oxygen, total and dissolved solids and specific cations/anions
Compare results from multiple water sources on and off campus.

G. Polymers and Plastics
Characterize common recyclable plastics based on chemical and physical properties and deduce the most likely structure of an unknown polymer
Explore the relationships between polymer structures and properties

N24. Perform quantitative and qualitative measurements;

Matching course component(s):
10. Lab Content A-G Each lab includes the collection of quantitative and/or qualitative measurements. The following is exemplary of the laboratory activities:

A. Observation and Measurement Skills:
Measure and record mass and volume data
Make observations of physical properties of various substances
Perform simple dilutions
Use observations and measurements of the physical properties of an unknown substance to identify the substance.

B. Generating and Characterizing Gases Based on Chemical Properties
Perform a series of chemical reactions to generate gases and test their reactivity
Participate in a demonstration of smog formation and experimental exploration of its impact on a simulated ecosystem

C. Estimation of ozone concentrations in our environment
Prepare and use Schoenbein paper to observe ozone levels (or alternate data collection technique)
Collect data on the ozone levels at interior and exterior locations
Use standard scales and relative humidity data to estimate ozone concentrations

Develop a rationale for ozone levels based on sampling locations
D. Exploring Combustion: Fuels and Energy Efficiency
Experimentally determine and compare energy produced by combustion of different fuels
Compare the theoretical and experimental energy values using percent error
E. Synthesis of Biodiesel (2 part lab)
Synthesize biodiesel from vegetable oil
Learn the use of a separatory funnel and centrifuge
Calculate theoretical and experimental yields
Demonstrate the principles of atom economy by synthesizing soap from glycerol byproduct
F.What's in Your Water?
Measure key indicators of water quality such as pH, turbidity, dissolved oxygen, total and dissolved solids and specific cations/anions
Compare results from multiple water sources on and off campus.
G.Polymers and Plastics
Characterize common recyclable plastics based on chemical and physical properties and deduce the most likely structure of an unknown polymer
Explore the relationships between polymer structures and properties

N25. Interpret experimental results and draw reasonable conclusions;

Matching course component(s):
10. Lab Content A-G As listed in the item above, each laboratory activity requires the students to collect data and evaluate their results. In some cases, group data will be analyzed, while in labs, students will draw conclusions individually.
10. Lab Content:
A. Observation and Measurement Skills:
Measure and record mass and volume data
Make observations of physical properties of various substances
Perform simple dilutions
Use observations and measurements of the physical properties of an unknown substance to identify the substance.
B. Generating and Characterizing Gases Based on Chemical Properties
Perform a series of chemical reactions to generate gases and test their reactivity
Participate in a demonstration of smog formation and experimental exploration of its impact on a simulated ecosystem
C. Estimation of ozone concentrations in our environment
Prepare and use Schoenbein paper to observe ozone levels (or alternate data collection technique)
Collect data on the ozone levels at interior and exterior locations
Use standard scales and relative humidity data to estimate ozone concentrations
Develop a rationale for ozone levels based on sampling locations
D. Exploring Combustion: Fuels and Energy Efficiency
Experimentally determine and compare energy produced by combustion of different fuels
Compare the theoretical and experimental energy values using percent error
E. Synthesis of Biodiesel (2 part lab)
Synthesize biodiesel from vegetable oil
Learn the use of a separatory funnel and centrifuge
Calculate theoretical and experimental yields
Demonstrate the principles of atom economy by synthesizing soap from glycerol byproduct
F.What's in Your Water?
Measure key indicators of water quality such as pH, turbidity, dissolved oxygen, total and dissolved solids and specific cations/anions
Compare results from multiple water sources on and off campus.
G.Polymers and Plastics
Characterize common recyclable plastics based on chemical and physical properties and deduce the most likely structure of an unknown polymer
Explore the relationships between polymer structures and properties

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N26. Analyze data statistically and assess the reliability of results;

Matching course component(s):

10. Lab Content C, D, E, F In lab experiments which involve quantitative measurements, such as the amount produced in the biodiesel experiment or the values obtained in the water analysis, simple comparisons will be performed. The experimental and theoretical yields will be calculated and compared for the synthesis, while indicators of water quality will be compared with standard values. Simple statistical comparisons using means, ranges and standard deviations will be made.

10. Lab content:

C. Estimation of ozone concentrations in our environment
- Prepare and use Schoenbein paper to observe ozone levels (or alternate data collection technique)
- Collect data on the ozone levels at interior and exterior locations
- Use standard scales and relative humidity data to estimate ozone concentrations
- Develop a rationale for ozone levels based on sampling locations

D. Exploring Combustion: Fuels and Energy Efficiency
- Experimentally determine and compare energy produced by combustion of different fuels
- Compare the theoretical and experimental energy values using percent error

E. Synthesis of Biodiesel (2 part lab)
- Synthesize biodiesel from vegetable oil
- Learn the use of a separatory funnel and centrifuge
- Calculate theoretical and experimental yields
- Demonstrate the principles of atom economy by synthesizing soap from glycerol byproduct

F.What's in Your Water?
- Measure key indicators of water quality such as pH, turbidity, dissolved oxygen, total and dissolved solids and specific cations/anions
- Compare results from multiple water sources on and off campus.

N27. Critically evaluate the design of an experiment;

Matching course component(s):

4. Lecture Content G: As part of their group project, students will be asked to critically evaluate the data available for their topic and propose research or experiments that could better assess the issue.

G. Examples of Special Topics for Group Projects (may vary from term to term)
1. Drugs as pollutants
2. Can plastics make you fat? The theory of obesogens
3. Genetic engineering: Should we fear “Frankenfoods?”
4. Growing greener food
5. Green chemistry as a business strategy
6. Innovative ideas for a greener home
7. Poisons all around us: Hazardous wastes

N28. Design experiments to test hypotheses;

Matching course component(s):

4. Lecture Content G: As part of their group project, students will be asked to critically evaluate the data available for their topic and propose research or experiments that could better assess the issue.

G. Examples of Special Topics for Group Projects (may vary from term to term)
8. Drugs as pollutants
9. Can plastics make you fat? The theory of obesogens
10. Genetic engineering: Should we fear “Frankenfoods?”
11. Growing greener food
12. Green chemistry as a business strategy
13. Innovative ideas for a greener home

14. Poisons all around us: Hazardous wastes

N29. Work effectively in small groups and teams.

Matching course component(s):

4. Lecture Content G: Students will participate in a group project with a presentation on a potentially controversial environmental topic. As part of their work, students will be expected to do a critical evaluation of the available data on their topic, presenting and evaluating contrasting opinions in both written and oral formats.

G. Examples of Special Topics for Group Projects (may vary from term to term)
1. Drugs as pollutants
2. Can plastics make you fat? The theory of obesogens
3. Genetic engineering: Should we fear "Frankenfoods?"
4. Growing greener food
5. Green chemistry as a business strategy
6. Innovative ideas for a greener home
7. Poisons all around us: Hazardous wastes

10. Lab Content B,D,F : In the laboratory component, students will work in pairs or as a small group for data analysis for selected labs.

B. Generating and Characterizing Gases Based on Chemical Properties
Perform a series of chemical reactions to generate gases and test their reactivity
Participate in a demonstration of smog formation and experimental exploration of its impact on a simulated ecosystem

D. Exploring Combustion: Fuels and Energy Efficiency
Experimentally determine and compare energy produced by combustion of different fuels
Compare the theoretical and experimental energy values using percent error

F. What's in Your Water?
Measure key indicators of water quality such as pH, turbidity, dissolved oxygen, total and dissolved solids and specific cations/anions
Compare results from multiple water sources on and off campus.

Breadth Mapping: please indicate all that apply (if applicable)

B1. Communication (analytical reading, writing, speaking, and listening skills including evaluation, synthesis, and research)

Matching course component(s):

Students will be expected to read the text as well as materials related to their group project.(

12. Required Reading

A. Homework assignments
Homework required will consist of reading the assigned text, completing problems from the text, and online assignments (problems, tutorials, practice quizzes) for each of the ten chapters covered in this course. In addition, one or more group projects will be assigned which will require a substantial time commitment outside of class

B. Laboratory assignments
There are 8 experiments administered in this course during the weekly two-hour laboratory session for which a pre-laboratory assignment, data and calculations, and a post-laboratory assignment are assessed for credit.

C. Additional course work
The careful and regular reading and rereading of the text and lecture notes is essential to passing this course.

4. Lecture Content G: Examples of Special Topics for Group Projects (may vary from term to term)
1. Drugs as pollutants

2. Can plastics make you fat? The theory of obesogens
3. Genetic engineering: Should we fear "Frankenfoods?"
4. Growing greener food
5. Green chemistry as a business strategy
6. Innovative ideas for a greener home
7. Poisons all around us: Hazardous wastes

Students will create a written report from their group project as well as a presentation using their choice of media (live, video, Powerpoint, etc). Student will do an evaluation of their peer's presentations, reflecting their listening and written skills. Students will also be expected to participate in class, particularly during group discussions.

B2. Computation (application of mathematical concepts, and/or using principles of data collection andanalysis to solve problems).

Matching course component(s): Lecture and lab content will introduce mathematical relationships underlying the scientific theories and laws presented in the course. Measurements, dilutions, molar relationships in chemical reactions, dose response, toxicity thresholds, energy relationships in chemical reactions are exemplary of the mathematical concepts that will be covered.

4. Lecture Content B:

B. Chemistry of Air
   Measurements, units and conversion factors
   Significant figures and scientific notation
   Air pollutants and risk assessment
C. Chemistry of Global Climate Change
   Quantitative concepts: mass, molecules and moles
D. Our Addiction to Energy
   Measuring the efficiency of energy transformations
   Unique chemical properties of water
E. Water for Life
   Aqueous solutions, solubility and concentration units (mass/volume; molarity)

10. Lab Content A, C, D, E, F :

A. Observation and Measurement Skills:
   Measure and record mass and volume data
   Perform simple dilutions
   Use observations and measurements of the physical properties of an unknown substance to identify the substance.
C. Estimation of ozone concentrations in our environment
   Collect data on the ozone levels at interior and exterior locations
   Use standard scales and relative humidity data to estimate ozone concentrations
   Develop a rationale for ozone levels based on sampling locations
D. Exploring Combustion: Fuels and Energy Efficiency
   Experimentally determine and compare energy produced by combustion of different fuels
   Compare the theoretical and experimental energy values using percent error
E. Synthesis of Biodiesel (2 part lab)
   Calculate theoretical and experimental yields
F.What's in Your Water?
   Measure key indicators of water quality such as pH, turbidity, dissolved oxygen, total and dissolved solids and specific cations/anions
   Compare results from multiple water sources on and off campus.

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B3. Clearly and precisely express their ideas in a logical and organized manner using the discipline-appropriate language

Matching course component(s):

4. Lecture Content G: Examples of Special Topics for Group Projects (may vary from term to term)

1. Drugs as pollutants
2. Can plastics make you fat? The theory of obesogens
3. Genetic engineering: Should we fear "Frankenfoods?"
4. Growing greener food
5. Green chemistry as a business strategy
6. Innovative ideas for a greener home
7. Poisons all around us: Hazardous wastes

Students will create a written report from their group project as well as a presentation using their choice of media (live, video, Powerpoint, etc). Student will do an evaluation of their peer's presentations, reflecting their listening and written skills.

B4. Community and global consciousness and responsibility (consideration of one's role in society at the local, regional, national, and global level in the context of cultural constructs and historical and contemporary events and issues).

Matching course component(s):

4. Lecture Content A-G: The green chemistry emphasis in the course is designed to raise the awareness of students to their individual role in making decisions that will have a positive impact on the earth. No matter what the student's major is or where their career path takes them, they will have the opportunity to make choices that impact the environment. One of the primary objectives of this course is to give students the knowledge and scientific tools to better understand the environment impact of their choices and to be able to critically evaluate information they encounter in the media.

A. Introduction to the Principles of Green Chemistry
   1. Impact of humanity on our environment
   2. Principles of sustainability
   3. Sustainable practices we need for our future

B. Chemistry of Air
   5. Air pollutants and risk assessment
   11. Air quality: what are you breathing?

C. Chemistry of Global Climate Change
   4. Human drivers of climate change: gas emissions and land use

D. Our Addiction to Energy
   4. Efficiency and environmental impact of combustions fuels: coal, petroleum and biofuels
   5. Isotopes, radioactivity and energy from nuclear fission
   6. Energy from electron transfer: redox reactions, batteries, fuel cells and renewable sources

E. Water for Life
   1. Unique chemical properties of water
   5. Acid rain: sources and consequences

F. Polymers, Plastics and Our World
   3. From cradle to grave: the fate and impact of plastics on the environment

G. Examples of Special Topics for Group Projects (may vary from term to term)
   1. Drugs as pollutants
   2. Can plastics make you fat? The theory of obesogens
   3. Genetic engineering: Should we fear "Frankenfoods?"
   4. Growing greener food
   5. Green chemistry as a business strategy
   6. Innovative ideas for a greener home

B5. Information competency (ability to identify an information need, to find, evaluate and use information to meet that need in a legal and ethical way) and digital literacy (to teach and assess basic computer concepts

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and skills so that people can use computer technology in everyday life to develop new social and economic opportunities for themselves, their families, and their communities).

Matching course component(s):

6. Methods of Evaluation A,E: This course will require students to use an online homework system and to utilize the internet in their research on their group project.

6. Methods of Evaluation A,E:

The student will demonstrate proficiency by:

A. Successful completion of online homework assignments
E. Successful completion of a special topic group project and presentation

Requesting Faculty: Mary Holland Date: 10/30/ 2012

Division Curr Rep: Kathy Armstrong Date:

REVIEW COMMITTEE USE ONLY:

Review Committee Members:

Kathleen Armstrong, Gillian Schultz, Patrick Morriss

Comments:

Recommend approval.

Approved: Denied: CCC Co-Chair Signature: Date:3/20/2013

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Course Number & Title: ENGR 39 Energy Society and the Environment

Breadth Criteria:

At Foothill College, the primary objective of the general education requirements is to provide students with the depth and breadth of knowledge and understanding required to be independent, thinking persons who are able to interact successfully with others as educated and productive members of our diverse society. Design and implementation of the general education curriculum ensures that students have exposure to all major disciplines, understand relationships among the various disciplines, and appreciate and evaluate the collective knowledge and experiences that form our cultural and physical heritage. General education courses provide content that is broad in scope and at an introductory depth, and all require critical thinking.

A general education enables students to clarify and present their personal views as well as respect, evaluate, and be informed by the views of others. This academic program is designed to facilitate a process that enables students to reach their fullest potential as individuals, national and global citizens, and lifelong learners for the 21st century.

In order to be successful, students are expected to have achieved minimum proficiency in math (MATH 105) and English (ENGL 1A, 1AH or ESL 26) before enrolling in a GE course.

A completed pattern of general education courses provides students with opportunities to acquire, practice, apply, and become proficient in each of the core competencies listed below.

B1. Communication (analytical reading, writing, speaking, and listening skills including evaluation, synthesis, and research).
B2. Computation (application of mathematical concepts, and/or using principles of data collection and analysis to solve problems).
B3. Creative, critical, and analytical thinking (reasoning, questioning, problem solving, and consideration of consequence).
B4. Community and global consciousness and responsibility (consideration of one's role in society at the local, regional, national, and global level in the context of cultural constructs and historical and contemporary events and issues).
B5. Information competency (ability to identify an information need, to find, evaluate and use information to meet that need in a legal and ethical way) and digital literacy (to teach and assess basic computer concepts and skills so that people can use computer technology in everyday life to develop new social and economic opportunities for themselves, their families, and their communities).

Depth Criteria for Area III – Natural Sciences:

Natural science courses deal with the physical universe, the testable principles that govern its operations, its life forms, and its natural, measurable phenomena. One primary purpose of these courses is to promote an awareness of the methods of scientific inquiry and the power of scientific inquiry to describe the natural world. Emphasis is on understanding and applying the scientific method, which promotes a sense of discovery, fosters critical analysis, and encourages an understanding of the relationships between science and other human activities. A General Education natural science course should exhibit the same methods and skills used by scientists when seeking an understanding of the uncertainty and complexity of the natural world.

A successful General Education Natural Science course ***must*** promote in students:

N1. An understanding of the scientific method, including its attributes and limitations;
N2. The ability to make judgments regarding the validity of scientific evidence;
N3. An understanding of the relationship between hypothesis, experiment, fact, theory and law;
N4. The ability to use inductive and deductive reasoning;
N5. The practice of thinking critically, including evaluating ideas and contrasting opinions;
N6. The ability to evaluate, use and communicate scientific data;
N7. An introduction to current scientific theories within the field of study;
N8. Experience with laboratory activities using laboratory techniques consistent with those employed within the discipline;
N9. Experience applying recognized scientific methodology in laboratory activities.*****

Additional criterion thought to enhance a natural science course include any of the following:

N10. An appreciation of the contributions of science to modern life;
N11. An appreciation of the contributions to science of diverse people and cultures;
N12. An understanding of the interdependence of humans and their environment;
N13. A recognition of how human behavior has altered the environment;
N14. A sense of the history of science and the ideas and experiments that have led to our present understanding.

Be advised that the following criteria for a GE lab is consistent with a definition provided by the National Research Council, 2005:

"Laboratory experiences provide opportunities for students to interact directly with the material world (or with data drawn from the material world), using the tools, data collection techniques, models, and theories of science. This definition includes student interaction with astronomical databases, genome databases, databases of climatic events over long time periods, and other large data sets derived directly from the material world. It does not include

student manipulation or analysis of data created by a teacher to simulate direct interaction with the material world. For example, if a physics teacher presented students with a constructed data set on the weight and required pulling force for boxes pulled across desks with different surfaces and asked them to analyze these data, the students' problem-solving activity would not constitute a laboratory experience in the committee's definition."

***** To accomplish these goals a laboratory course ***must*** emphasize the methods of scientific inquiry by engaging students in:

NL15. Observation and collection of data through direct interaction with the material world;
NL16. Use of tools, data collection techniques, models and theories of science most prevalent in relevant research laboratories;
NL17. Data may be from large data sets derived directly from the material world, but may not rely exclusively on student manipulation or analysis of data created by a teacher to simulate direct interaction with the material world;
NL18. Analysis and interpretation of data;
NL19. Formulation and testing of hypotheses;
NL20. Communicating effectively through oral and/or written work;
NL21. A minimum of one collaborative activity;
NL22. A minimum of one laboratory unit or the equivalent of 33 hours of laboratory instruction per quarter.

Additional criterion thought to enhance a natural science laboratory include any of the following:
NL23. Keep accurate and complete experimental records;
NL24. Perform quantitative and qualitative measurements;
NL25. Interpret experimental results and draw reasonable conclusions;
NL26. Analyze data statistically and assess the reliability of results;
NL27. Critically evaluate the design of an experiment;
NL28. Design experiments to test hypotheses;
NL29. Work effectively in small groups and teams.

Course Number & Title: ENGR 39 Energy Society and the Environment

Please map each appropriate component from the **Course Outline of Record** to the appropriate depth and breadth criteria. You can use any part of your COR including course outcomes, expanded content, methods of instruction/evaluation, and/or lab content.

Depth Map: Must include the following:
N1. An understanding of the scientific method, including its attributes and limitations;

Matching course component(s):
Course Objective 2C: The student will be able to explain and analyze the theories of climate change and the greenhouse effect by evaluating current scientific data and numerical models.;
Course Content 4C.2: Greenhouse Gasses and climate change

a) Principles of climate science
b) Measurements of GHGs and correlation to carbon
c) Observations of current warming
d) Radiative forcing and future warming projections
e) Observation of climate change and global concerns;

Within the listed course content, students will learn how data are gathered for the study of climate change, including how relevant variables are isolated, how the current theories and hypotheses have been developed, and will practice applying the scientific method themselves using available scientific data from weather & climate research.

Lab Content 10.B: Energy meters and measurements

1. Multimeters
2. Constructing a small electrical circuit
3. Replication & verification of Ohm's Law
4. Error Analysis

Lab Content 10.H: Solar PV demonstration

1. Lab kit demonstration
2. Solar site analysis
    1. Calculation of sun path
    2. Prediction of solar energy output for test site
    3. Comparison of data with existing solar panels on campus
    4. Inverter data analysis

Within the lab content listed, students will participate in a hands-on approach to the scientific method by gathering data on electricity and the sun, making hypotheses related to Ohm's law and predicted solar output, and testing their hypotheses through data analysis.

N2. The ability to make judgments regarding the validity of scientific evidence;

Matching course component(s):
Course Objective 2C: The student will be able to explain and analyze the theories of climate change and the greenhouse effect by evaluating current scientific data and numerical models.;
Course Content 4C.2: Greenhouse Gasses and climate change

a) Principles of climate science
b) Measurements of GHGs and correlation to carbon
c) Observations of current warming
d) Radiative forcing and future warming projections
e) Observation of climate change and global concerns;

Within the listed course content, students will discuss how theories can be validated through analysis of the data, how that data were gathered, and an evaluation of the numerical models that are applied to climate change science.

Lab Content 10.D: Home energy audits (building energy audit on campus)

1. Examination & analysis of student energy bills

Lab Content 10.E: GHG audits / green house effect

1. Simulating the Greenhouse Effect

Within the listed lab content, students will apply critical thinking to data acquisition by determining what variables are relevant to their hypotheses and will test the validity of their hypotheses through data analysis, including a discussion of error analysis.

N3. An understanding of the relationship between hypothesis, experiment, fact, theory and law;

Matching course component(s):
Course Objective 2A: The student will be able to describe the relationships between energy and power and how mechanical systems harness energy to do work.;
Course Objective 2C: The student will be able to explain and analyze the theories of climate change and the greenhouse effect by evaluating current scientific data and numerical models.;

Within the course content, students will be introduced to the basic physics behind energy transfer in order to differentiate between scientific theories, facts, and laws and how experimentation is used to validate them.

Lab content 10:
B. Energy meters and measurements

2. Constructing a small electrical circuit
3. Replication & verification of Ohm's Law
4. Error Analysis

E. GHG audits / green house effect

1. Simulating the Greenhouse Effect

H. Solar PV demonstration

2. Solar site analysis
    1. Calculation of sun path
    2. Prediction of solar energy output for test site
    3. Comparison of data with existing solar panels on campus

I. Wind energy

1. Wind calculations & energy output predictions
2. Wind measurements (outdoors)

Within the lab content listed, students will form hypotheses and conduct experiments to help them understand how a scientific theory becomes a scientific law (such as in the case of Ohm's Law), and how to use scientific facts along with their observations to support their hypotheses (such as in the solar site analysis lab).

N4. The ability to use inductive and deductive reasoning;

Matching course component(s):
Course Objective 2A: The student will be able to describe the relationships between energy and power and how mechanical systems harness energy to do work.
Course Objective 2C: The student will be able to explain and analyze the theories of climate change and the greenhouse effect by evaluating current scientific data and numerical models.
Course Objective 2E: The student will be able to develop strategies for the environmental, political, and economic consequences of fossil fuel dependence.
Course Objective 2F: The student will be able to conduct and document simple energy and greenhouse gas audits and develop personal climate action plans.

N5. The practice of thinking critically, including evaluating ideas and contrasting opinions;

Matching course component(s):
2. Course Objectives -

The student will be able to:
B. discuss the human history of energy use, and relate it to how we arrived at our current energy situation.
C. explain and analyze the theories of climate change and the greenhouse effect by evaluating current scientific data and numerical models.
D. compare the challenges and options for clean energy development in our energy system.
E. develop strategies for the environmental, political, and economic consequences of fossil fuel dependence.
H. discuss, evaluate, and propose policy development strategies for clean energy solutions worldwide, including in megacities.

N6. The ability to evaluate, use and communicate scientific data;

Matching course component(s):
Course Objectives: The student will be able to -
2B: discuss the human history of energy use, and relate it to how we arrived at our current energy situation
2C: explain and analyze the theories of climate change and the greenhouse effect by evaluating current scientific data and numerical models.
2E: develop strategies for the environmental, political, and economic consequences of fossil fuel dependence.
2F: conduct and document simple energy and greenhouse gas audits and develop personal climate action plans.

Lab Content 10:
C Energy systems on campus and in our environment
4. Evaluation & analysis of campus energy data
D. Home energy audits (building energy audit on campus)
1. Examination & analysis of student energy bills
J. Life-Cycle Assessment of Commonly Used Consumer Goods

1. Identification of relevant energy and material inputs and environmental releases
2. Evaluation of the potential impacts associated with identified inputs and releases
3. Interpretation of results

Methods of Evaluation: 6A. Written assignments, including problem sets. 6D. Group lab reports.

N7. An introduction to current scientific theories within the field of study;

Matching course component(s):
Course Objectives: The student will be able to -
2A. describe the relationships between energy and power and how mechanical systems harness energy to do work.
2C. explain and analyze the theories of climate change and the greenhouse effect by evaluating current scientific data and numerical models.
2D. compare the challenges and options for clean energy development in our energy system.

N8. Experience with laboratory activities using laboratory techniques consistent with those employed within the discipline;

Matching course component(s):
Lab content 10.

A. Energy units and calculations
   1. Scientific units
   2. Use of a scientific calculator

B. Energy meters and measurements
   1. Multimeter
   2. Constructing a small electrical circuit
   3. Replication & verification of Ohm's Law
   4. Error Analysis

D. Home energy audits (building energy audit on campus)
   1. Examination & analysis of student energy bills
   2. Use of a Kill-a-watt meter
   3. Smart meter demonstration (Web login)
   4. Foothill College Web login

E. GHG audits / green house effect
   1. Simulating the Greenhouse Effect
   2. CO2 created from burning fuel
   3. Dissolving CO2 in water (pH)
   4. GHG audit (large group exercise)
   5. Personal GHG audit (understanding energy use)
   6. Carbon offsets (soil)

H. Solar PV demonstration
   1. Lab kit demonstration
   2. Solar site analysis
      1. Calculation of sun path
      2. Prediction of solar energy output for test site
      3. Comparison of data with existing solar panels on campus
   3. Inverter data analysis

I. Wind energy
   1. Wind kit demonstration
   2. Wind calculations & energy output predictions
   3. Wind measurements (outdoors)
   4. Wind wiring diagram (integration)

N9. Experience applying recognized scientific methodology in laboratory activities.

Matching course component(s):
Course Objective 2F: The student will be able to conduct and document simple energy and greenhouse gas audits and develop personal climate action plans.

Lab Content 10:

A. Energy units and calculations
   1. Scientific units
   2. Use of a scientific calculator

B. Energy meters and measurements
   1. Multimeter
   2. Constructing a small electrical circuit
   3. Replication & verification of Ohm's Law
   4. Error Analysis

E. GHG audits / green house effect
   1. Simulating the Greenhouse Effect
   2. CO2 created from burning fuel
   3. Dissolving CO2 in water (pH)
   4. GHG audit (large group exercise)

5. Personal GHG audit (understanding energy use)
6. Carbon offsets (soil)

H. Solar PV demonstration
1. Lab kit demonstration
2. Solar site analysis
    1. Calculation of sun path
    2. Prediction of solar energy output for test site
    3. Comparison of data with existing solar panels on campus
3. Inverter data analysis

I. Wind energy
1. Wind kit demonstration
2. Wind calculations & energy output predictions
3. Wind measurements (outdoors)
4. Wind wiring diagram (integration)

Depth Map: Additionally, include any of the following:

N10. An appreciation of the contributions of science to modern life;

Matching course component(s):
Course Objective 2B: The student will be able to discuss the human history of energy use, and relate it to how we arrived at our current energy situation.

N11. An appreciation of the contributions to science of diverse people and cultures;

Matching course component(s):

N12. An understanding of the interdependence of humans and their environment;

Matching course component(s):
Course Objectives: The student will be able to -
2B: discuss the human history of energy use, and relate it to how we arrived at our current energy situation.
2C: explain and analyze the theories of climate change and the greenhouse effect by evaluating current scientific data and numerical models.
2E: develop strategies for the environmental, political, and economic consequences of fossil fuel dependence.
2H: discuss, evaluate, and propose policy development strategies for clean energy solutions worldwide, including in megacities.

N13. A recognition of how human behavior has altered the environment;

Matching course component(s):
Course Objectives: The student will be able to -
2C: explain and analyze the theories of climate change and the greenhouse effect by evaluating current scientific data and numerical models.
2E: compare the challenges and options for clean energy development in our energy system.
develop strategies for the environmental, political, and economic consequences of fossil fuel dependence.

N14. A sense of the history of science and the ideas and experiments that have led to our present understanding.

Matching course component(s):
Course Objective 2B: discuss the human history of energy use, and relate it to how we arrived at our current energy situation.

Depth Map: Additionally, must emphasize the following:

N15. Observation and collection of data through direct interaction with the material world;

Matching course component(s):
Lab Content 10.
B. Energy meters and measurements
1. Multimeter
2. Constructing a small electrical circuit
3. Replication & verification of Ohm's Law

4. Error Analysis

D. Home energy audits (building energy audit on campus)
1. Examination & analysis of student energy bills
2. Use of a Kill-a-watt meter
3. Smart meter demonstration (Web login)
4. Foothill College Web login

E. GHG audits / green house effect
1. Simulating the Greenhouse Effect
2. CO2 created from burning fuel
3. Dissolving CO2 in water (pH)
4. GHG audit (large group exercise)
5. Personal GHG audit (understanding energy use)
6. Carbon offsets (soil)

H. Solar PV demonstration
1. Lab kit demonstration
2. Solar site analysis
    1. Calculation of sun path
    2. Prediction of solar energy output for test site
    3. Comparison of data with existing solar panels on campus
3. Inverter data analysis

I. Wind energy
1. Wind kit demonstration
2. Wind calculations & energy output predictions
3. Wind measurements (outdoors)
4. Wind wiring diagram (integration)

N16. Use of tools, data collection techniques, models and theories of science most prevalent in relevant research laboratories;

Matching course component(s):
Lab Content 10.
Lab Content 10.

B. Energy meters and measurements
1. Multimeter
2. Constructing a small electrical circuit
3. Replication & verification of Ohm's Law
4. Error Analysis

D. Home energy audits (building energy audit on campus)
1. Examination & analysis of student energy bills
2. Use of a Kill-a-watt meter
3. Smart meter demonstration (Web login)
4. Foothill College Web login

E. GHG audits / green house effect
1. Simulating the Greenhouse Effect
2. CO2 created from burning fuel
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1. Lab kit demonstration
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    1. Calculation of sun path
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3. Inverter data analysis

I. Wind energy
1. Wind kit demonstration

2. Wind calculations & energy output predictions
3. Wind measurements (outdoors)
4. Wind wiring diagram (integration)

N17. Data may be from large data sets derived directly from the material world, but may not rely exclusively on student manipulation or analysis of data created by a teacher to simulate direct interaction with the material world;

Matching course component(s):
Course Objective 2C:explain and analyze the theories of climate change and the greenhouse effect by evaluating current scientific data and numerical models.

Lab Content 10.
C. Energy systems on campus and in our environment
1. Tour of Foothill College
2. Tour of community energy (electrical infrastructure)
3. Overview of gas pipelines
4. Evaluation & analysis of campus energy data.

H. Solar PV demonstration
1. Lab kit demonstration
2. Solar site analysis
    1. Calculation of sun path
    2. Prediction of solar energy output for test site
    3. Comparison of data with existing solar panels on campus
    4. Inverter data analysis

J. Life-Cycle Assessment of Commonly Used Consumer Goods
3. Identification of relevant energy and material inputs and environmental releases
4. Evaluation of the potential impacts associated with identified inputs and releases
Interpretation of results

N18. Analysis and interpretation of data;

Matching course component(s):
Lab Content 10:
B. Energy meters and measurements
1. Multimeter
2. Constructing a small electrical circuit
3. Replication & verification of Ohm's Law
4. Error Analysis

C. Energy systems on campus and in our environment
1. Evaluation & analysis of campus energy data

D. Home energy audits (building energy audit on campus)
1. Examination & analysis of student energy bills

H. Solar PV demonstration
1. Lab kit demonstration
2. Solar site analysis
    1. Calculation of sun path
    2. Prediction of solar energy output for test site
    3. Comparison of data with existing solar panels on campus
3. Inverter data analysis

I. Wind energy
1. Wind kit demonstration
2. Wind calculations & energy output predictions
3. Wind measurements (outdoors)
4. Wind wiring diagram (integration)

J. Life-Cycle Assessment of Commonly Used Consumer Goods
1. Identification of relevant energy and material inputs and environmental releases
2. Evaluation of the potential impacts associated with identified inputs and releases

3. Interpretation of results

N19. Formulation and testing of hypotheses;

Matching course component(s):
Lab Content 10:
B. Energy meters and measurements
1. Multimeter
2. Constructing a small electrical circuit
3. Replication & verification of Ohm's Law
4. Error Analysis

E. GHG audits / green house effect
1. Simulating the Greenhouse Effect
2. CO2 created from burning fuel
3. Dissolving CO2 in water (pH)
4. GHG audit (large group exercise)
5. Personal GHG audit (understanding energy use)
6. Carbon offsets (soil)

H. Solar PV demonstration
1. Lab kit demonstration
2. Solar site analysis
    1. Calculation of sun path
    2. Prediction of solar energy output for test site
    3. Comparison of data with existing solar panels on campus
3. Inverter data analysis

I. Wind energy
1. Wind kit demonstration
2. Wind calculations & energy output predictions
3. Wind measurements (outdoors)
4. Wind wiring diagram (integration)

N20. Communicating effectively through oral and/or written work;

Matching course component(s):
6. Methods of Evaluation A. Written Assignments, E. Group Project & Presentation;

N21. A minimum of one collaborative activity;

Matching course component(s):
6. Methods of Evaluation C. Group Lab Reports, E. Group Project & Presentation.

N22. A minimum of one laboratory unit or the equivalent of 33 hours of laboratory instruction per quarter.

Matching course component(s):
10. Lab Content
A. Energy units and calculations
B. Energy meters and measurements
C. Energy systems on campus and in our environment
D. Home energy audits
E. GHG audits / green house effect
F. Building energy efficiency
G. High efficiency homes
H. Solar PV demonstration
I. Wind energy
J. Life-Cycle Assessment of Commonly Used Consumer Goods
K. Electric Vehicles and Energy Storage

Students will be divided into small groups to participate in the above listed weekly laboratory activities which will involve a broad understanding of how to apply the scientific method.

Depth Map: Additionally, include any of the following:

N23. Keep accurate and complete experimental records;

Matching course component(s):
6. Methods of Evaluation, C. Group Lab Reports.

N24. Perform quantitative and qualitative measurements;

Matching course component(s):
Lab Content 10:
B. Energy meters and measurements
1. Multimeter
2. Constructing a small electrical circuit
3. Replication & verification of Ohm's Law
4. Error Analysis

D. Home energy audits (building energy audit on campus)
1. Examination & analysis of student energy bills
2. Use of a Kill-a-watt meter
3. Smart meter demonstration (Web login)
4. Foothill College Web login

E. GHG audits / green house effect
1. Simulating the Greenhouse Effect
2. CO2 created from burning fuel
3. Dissolving CO2 in water (pH)
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1. Lab kit demonstration
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    1. Calculation of sun path
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3. Inverter data analysis

I. Wind energy
1. Wind kit demonstration
2. Wind calculations & energy output predictions
3. Wind measurements (outdoors)
4. Wind wiring diagram (integration)

J. Life-Cycle Assessment of Commonly Used Consumer Goods
1. Identification of relevant energy and material inputs and environmental releases
2. Evaluation of the potential impacts associated with identified inputs and releases
3. Interpretation of results

N25. Interpret experimental results and draw reasonable conclusions;

Matching course component(s):
Lab Content 10.
B. Energy meters and measurements
1. Multimeter
2. Constructing a small electrical circuit
3. Replication & verification of Ohm's Law
4. Error Analysis

D. Home energy audits (building energy audit on campus)
1. Examination & analysis of student energy bills
2. Use of a Kill-a-watt meter
3. Smart meter demonstration (Web login)

4. Foothill College Web login

E. GHG audits / green house effect
1. Simulating the Greenhouse Effect
2. CO2 created from burning fuel
3. Dissolving CO2 in water (pH)
4. GHG audit (large group exercise)
5. Personal GHG audit (understanding energy use)
6. Carbon offsets (soil)

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1. Lab kit demonstration
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    1. Calculation of sun path
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3. Inverter data analysis

I. Wind energy
1. Wind kit demonstration
2. Wind calculations & energy output predictions
3. Wind measurements (outdoors)
4. Wind wiring diagram (integration)

J. Life-Cycle Assessment of Commonly Used Consumer Goods
1. Identification of relevant energy and material inputs and environmental releases
2. Evaluation of the potential impacts associated with identified inputs and releases
3. Interpretation of results

N26. Analyze data statistically and assess the reliability of results;

Matching course component(s):
Course Objective 2C: The student will be able to explain and analyze the theories of climate change and the greenhouse effect by evaluating current scientific data and numerical models.

N27. Critically evaluate the design of an experiment;

Matching course component(s):
Lab Content 10:

H. Solar PV demonstration
1. Lab kit demonstration
2. Solar site analysis
    1. Calculation of sun path
    2. Prediction of solar energy output for test site
    3. Comparison of data with existing solar panels on campus
3. Inverter data analysis

I. Wind energy
1. Wind kit demonstration
2. Wind calculations & energy output predictions
3. Wind measurements (outdoors)
4. Wind wiring diagram (integration)

N28. Design experiments to test hypotheses;

Matching course component(s):
Lab Content 10:

B. Energy meters and measurements
1. Multimeter
2. Constructing a small electrical circuit
3. Replication & verification of Ohm's Law
4. Error Analysis

H. Solar PV demonstration
1. Lab kit demonstration

2. Solar site analysis
    1. Calculation of sun path
    2. Prediction of solar energy output for test site
    3. Comparison of data with existing solar panels on campus
3. Inverter data analysis

I. Wind energy

1. Wind kit demonstration
2. Wind calculations & energy output predictions
3. Wind measurements (outdoors)
4. Wind wiring diagram (integration)

N29. Work effectively in small groups and teams.

Matching course component(s):
9. Methods of Instruction – hands-on group activities; Lab Content.

Breadth Mapping: please indicate all that apply (if applicable)

B1. Communication (analytical reading, writing, speaking, and listening skills including evaluation, synthesis, and research)

Matching course component(s):
Course Objectives: The student will be able to -
B. discuss the human history of energy use, and relate it to how we arrived at our current energy situation.
C. explain and analyze the theories of climate change and the greenhouse effect by evaluating current scientific data and numerical models.
D. compare the challenges and options for clean energy development in our energy system.
E. develop strategies for the environmental, political, and economic consequences of fossil fuel dependence.
F. conduct and document simple energy and greenhouse gas audits and develop personal climate action plans.
H. discuss, evaluate, and propose policy development strategies for clean energy solutions worldwide, including in megacities.

B2. Computation (application of mathematical concepts, and/or using principles of data collection and analysis to solve problems).

Matching course component(s):
12. Types and/or Examples of Required Reading, Writing and Outside of Class Assignments - Required computation/exercises: Students may be required to complete numerical exercises at the end of the chapters, complete computational activities both in lecture and in lab, individually and as a group. e.g. Lab notebook may include an energy audit of a residence or building with energy calculations based on acquired data.

B3. Clearly and precisely express their ideas in a logical and organized manner using the discipline-appropriate language

Matching course component(s):
Course Objective 2H. discuss, evaluate, and propose policy development strategies for clean energy solutions worldwide, including in megacities.

B4. Community and global consciousness and responsibility (consideration of one's role in society at the local, regional, national, and global level in the context of cultural constructs and historical and contemporary events and issues).

Matching course component(s):
Course Objectives:
2E. develop strategies for the environmental, political, and economic consequences of fossil fuel dependence.
2F. conduct and document simple energy and greenhouse gas audits and develop personal climate action plans.
2H. discuss, evaluate, and propose policy development strategies for clean energy solutions worldwide, including in megacities.

B5. Information competency (ability to identify an information need, to find, evaluate and use information to meet that need in a legal and ethical way) and digital literacy (to teach and assess basic computer concepts

and skills so that people can use computer technology in everyday life to develop new social and economic opportunities for themselves, their families, and their communities).

Matching course component(s):

Requesting Faculty:_____ Date:_____

Division Curr Rep:_____ Date:_____

REVIEW COMMITTEE USE ONLY:

Review Committee Members:

Kathleen Armstrong, Gillian Schultz, Patrick Morriss

Comments:

Approved:x_____ Denied:_____ CCC Co-Chair Signature:_____Date:03/27/2013____

General Education Review Request
AREA VII – LIFELONG LEARNING

Course Number & Title: BIOL 8_____

Breadth Criteria:

At Foothill College, the primary objective of the general education requirements is to provide students with the depth and breadth of knowledge and understanding required to be independent, thinking persons who are able to interact successfully with others as educated and productive members of our diverse society. Design and implementation of the general education curriculum ensures that students have exposure to all major disciplines, understand relationships among the various disciplines, and appreciate and evaluate the collective knowledge and experiences that form our cultural and physical heritage. General education courses provide content that is broad in scope and at an introductory depth, and all require critical thinking.

A general education enables students to clarify and present their personal views as well as respect, evaluate, and be informed by the views of others. This academic program is designed to facilitate a process that enables students to reach their fullest potential as individuals, national and global citizens, and lifelong learners for the 21st century.

In order to be successful, students are expected to have achieved minimum proficiency in math (MATH 105) and English (ENGL 1A, 1AH or ESL 26) before enrolling in a GE course.

A completed pattern of general education courses provides students with opportunities to acquire, practice, apply, and become proficient in each of the core competencies listed below.

B1. Communication (analytical reading, writing, speaking, and listening skills including evaluation, synthesis, and research).
B2. Computation (application of mathematical concepts, and/or using principles of data collection and analysis to solve problems).
B3. Creative, critical, and analytical thinking (reasoning, questioning, problem solving, and consideration of consequence).
B4. Community and global consciousness and responsibility (consideration of one's role in society at the local, regional, national, and global level in the context of cultural constructs and historical and contemporary events and issues).
B5. Information competency (ability to identify an information need, to find, evaluate and use information to meet that need in a legal and ethical way) and digital literacy (to teach and assess basic computer concepts and skills so that people can use computer technology in everyday life to develop new social and economic opportunities for themselves, their families, and their communities).

Depth Criteria for Area VII – Lifelong Learning:

Courses in this area provide students with the skills needed to continue learning after they leave college. Courses focus on the study of humans as integrated intellectual, physiological, social and psychological beings in relation to society and the environment. Full understanding and synthesis of a subject area usually occurs when the skills mastered in a course of study are applied to the context of another discipline. Students are given an opportunity to experience this concept in courses that provide opportunities that bridge subject areas so that students learn to function as independent and effective learners.

Physical activity courses are given inclusion to this area in recognition of the reality that you have to be healthy and live a long life in order to take advantage of lifelong learning. Foothill College deems that: Physical activity courses are acceptable, if they entail movement by the student and are overseen by a faculty member or coach. These courses can be taken for up to 2 units.

A course meeting the Lifelong Learning General Education Requirement ***must*** help students:

L1. Acquire and demonstrate knowledge, skills, and attitudes that support the application of information across two or more disciplines of study;
L2. Develop practical tools that can be integrated into problem solving and decision making with current day-to-day issues and which can be adapted to future situations;
L3. Identify current issues and concerns that influence health, communication or learning;
L4. Comprehend and apply health and well-being issues to the individual and to society;
L5. Find, evaluate, use and communicate information in all of its various formats and understand the ethical and legal implications of the use of that information.

In addition, a course meeting this requirement ***must*** include ***at least one*** of the following student learning outcomes:

L6. Define career and life planning strategies and resources including goal setting and time management, learning styles and self-awareness, building a positive work ethic and leadership qualities;
L7. Analyze beliefs, attitudes, biases, stereotypes, and behaviors in individuals and communities regarding temporary needs, problems and concerns facing society;
L8. Understand the importance of physical fitness and its impact on an individual's physical and mental health;
L9. Use technology to analyze problems and create solutions.

General Education Review Request
AREA VII – LIFELONG LEARNING

Course Number & Title Biology 8: Basic Nutrition

Please map each appropriate component from the **Course Outline of Record** to the appropriate depth and breadth criteria. You can use any part of your COR including course outcomes, expanded content, methods of instruction/evaluation, and/or lab content.

Faculty author comments in italics

Please also note the course-level Student Learning Outcomes for Bio 8, which support the proposal to include the course in Area VII:

Upon successful completion of Bio 8, students will be able to:

1. *interpret food labels and use them to make informed dietary choices*
2. *utilize the Dietary Guidelines for Americans to plan a diet for themselves and their family*
3. *utilize dietary analysis software to analyze their current dietary intake and use this information to make suggestions for appropriate dietary modifications*

Depth Map: Must include the following:

L1. Acquire and demonstrate knowledge, skills, and attitudes that support the **application** of information across **two or more disciplines** of study;

Matching course component(s):

2. A. identify psychological and social influences on eating behaviors. (*includes psychology, sociology*)
2. K. discuss current food & nutrition issues facing consumers (*psychology, political science, sociology*)
2. J. critically evaluate sources of nutrition information (*information competency*)
4. A. Factors influencing eating behaviors
   4. A. 1. Psychological (*psychology*)
   4. A.2. Social/cultural (*sociology*)

L2. Develop practical tools that can be integrated into **problem solving** and **decision making** with current day-to-day issues and which can be adapted to future situations;

Matching course component(s):

2. B. make food choices that promote nutritional health throughout his or her lifespan.
2. G. recall factors influencing energy balance and appraise the role that they play in the management of weight control.
2. H. discuss the role of nutrition in chronic disease
2. I. assess the nutritional adequacy of a diet of a healthy person and propose specific changes that will reduce the possibility of disease or malnutrition.
2. J. critically evaluate sources of nutrition information
2. K. discuss current food and nutrition issues facing consumers
SLOs 1, 2 and 3:

1. *interpret food labels and use them to make informed dietary choices*
2. *utilize the Dietary Guidelines for Americans to plan a diet for themselves and their family*
3. *utilize dietary analysis software to analyze their current dietary intake and use this information to make suggestions for appropriate dietary modifications*

L3. Identify current issues and concerns that influence health, communication or learning;

Matching course component(s):

2. B. make food choices that promote nutritional health throughout his or her lifespan.
2. G. recall factors influencing energy balance and appraise the role that they play in the management of weight control.

General Education Review Request
AREA VII – LIFELONG LEARNING

2. H. discuss the role of nutrition in chronic disease
2. I. assess the nutritional adequacy of a diet of a healthy person and propose specific changes that will reduce the possibility of disease or malnutrition.
2. J. critically evaluate sources of nutrition information
2. K. discuss current food and nutrition issues facing consumers

L4. Comprehend and apply health and well-being issues to the individual and to society;

Matching course component(s):

2. B. make food choices that promote nutritional health throughout his or her lifespan.
2. H. discuss the role of nutrition in chronic disease
2. I. assess the nutritional adequacy of a diet of a healthy person and propose specific changes that will reduce the possibility of disease or malnutrition.

L5. Find, evaluate, use and communicate information in all of its various formats and understand the ethical and legal implications of the use of that information.

Matching course component(s):

2. J. critically evaluate sources of nutrition information

Depth Map: Additionally, must include at least one of the following:

L6. Define career and life planning strategies and resources including goal setting and time management, learning styles and self-awareness, building a positive work ethic and leadership qualities;

Matching course component(s):

L7. Analyze beliefs, attitudes, biases, stereotypes, and behaviors in individuals and communities regarding temporary needs, problems and concerns facing society;

Matching course component(s):

2. A. identify psychological and social influences on eating behaviors.
2. K. discuss current food and nutrition issues facing consumers

L8. Understand the importance of physical fitness and its impact on an individual's physical and mental health;

Matching course component(s):

L9. Use technology to analyze problems and create solutions.

Matching course component(s):

6. C. Computer analysis of a four-day dietary intake.
6. D. Written assignments: 2. Detailed written analyses of the results of their computerized dietary analysis.

Breadth Mapping: please indicate all that apply (if applicable)

B1. Communication (analytical reading, writing, speaking, and listening skills including evaluation, synthesis, and research)

Matching course component(s):

6. D. Written assignments:
6. D. 1. Mandatory participation in online discussion forum.
6. D. 2. Detailed written analyses of the results of their computerized dietary analysis.

General Education Review Request
AREA VII – LIFELONG LEARNING

B2. Computation (application of mathematical concepts, and/or using principles of data collection and analysis to solve problems).

Matching course component(s):

B3. Clearly and precisely express their ideas in a logical and organized manner using the discipline-appropriate language

Matching course component(s):

6. D. Written assignments:
6. D. 1. Mandatory participation in online discussion forum.
6. D. 2. Detailed written analyses of the results of their computerized dietary analysis.

B4. Community and global consciousness and responsibility (consideration of one's role in society at the local, regional, national, and global level in the context of cultural constructs and historical and contemporary events and issues).

Matching course component(s):

B5. Information competency (ability to identify an information need, to find, evaluate and use information to meet that need in a legal and ethical way) and digital literacy (to teach and assess basic computer concepts and skills so that people can use computer technology in everyday life to develop new social and economic opportunities for themselves, their families, and their communities).

Matching course component(s):

4. E. Critical evaluation of sources of nutrition information
4. E. 1. Internet resources
4. E. 2. Written publications
4. E. 2. a. Scholarly
4. E. 2. b. Popular

Requesting Faculty: Carolyn Holcroft Date: October 10, 2012

Division Curr Rep: Rachelle Campbel Date: October 22, 2012

REVIEW COMMITTEE USE ONLY:

Review Committee Members:

Bernie Day
Bruce McLeod
Lety Serna

Comments:

recommend approval. 3/21/13

Approved: Denied: CCC Co-Chair Signature: Date:

General Education Review Request
AREA VII – LIFELONG LEARNING

Course Number & Title: PHED 22E

Breadth Criteria:

At Foothill College, the primary objective of the general education requirements is to provide students with the depth and breadth of knowledge and understanding required to be independent, thinking persons who are able to interact successfully with others as educated and productive members of our diverse society. Design and implementation of the general education curriculum ensures that students have exposure to all major disciplines, understand relationships among the various disciplines, and appreciate and evaluate the collective knowledge and experiences that form our cultural and physical heritage. General education courses provide content that is broad in scope and at an introductory depth, and all require critical thinking.

A general education enables students to clarify and present their personal views as well as respect, evaluate, and be informed by the views of others. This academic program is designed to facilitate a process that enables students to reach their fullest potential as individuals, national and global citizens, and lifelong learners for the 21st century.

In order to be successful, students are expected to have achieved minimum proficiency in math (MATH 105) and English (ENGL 1A, 1AH or ESL 26) before enrolling in a GE course.

A completed pattern of general education courses provides students with opportunities to acquire, practice, apply, and become proficient in each of the core competencies listed below.

B1. Communication (analytical reading, writing, speaking, and listening skills including evaluation, synthesis, and research).
B2. Computation (application of mathematical concepts, and/or using principles of data collection and analysis to solve problems).
B3. Creative, critical, and analytical thinking (reasoning, questioning, problem solving, and consideration of consequence).
B4. Community and global consciousness and responsibility (consideration of one's role in society at the local, regional, national, and global level in the context of cultural constructs and historical and contemporary events and issues).
B5. Information competency (ability to identify an information need, to find, evaluate and use information to meet that need in a legal and ethical way) and digital literacy (to teach and assess basic computer concepts and skills so that people can use computer technology in everyday life to develop new social and economic opportunities for themselves, their families, and their communities).

Depth Criteria for Area VII – Lifelong Learning:

Courses in this area provide students with the skills needed to continue learning after they leave college. Courses focus on the study of humans as integrated intellectual, physiological, social and psychological beings in relation to society and the environment. Full understanding and synthesis of a subject area usually occurs when the skills mastered in a course of study are applied to the context of another discipline. Students are given an opportunity to experience this concept in courses that provide opportunities that bridge subject areas so that students learn to function as independent and effective learners.

Physical activity courses are given inclusion to this area in recognition of the reality that you have to be healthy and live a long life in order to take advantage of lifelong learning. Foothill College deems that: Physical activity courses are acceptable, if they entail movement by the student and are overseen by a faculty member or coach. These courses can be taken for up to 2 units.

A course meeting the Lifelong Learning General Education Requirement ***must*** help students:

L1. Acquire and demonstrate knowledge, skills, and attitudes that support the application of information across two or more disciplines of study;
L2. Develop practical tools that can be integrated into problem solving and decision making with current day-to-day issues and which can be adapted to future situations;
L3. Identify current issues and concerns that influence health, communication or learning;
L4. Comprehend and apply health and well-being issues to the individual and to society;
L5. Find, evaluate, use and communicate information in all of its various formats and understand the ethical and legal implications of the use of that information.

In addition, a course meeting this requirement ***must*** include ***at least one*** of the following student learning outcomes:

L6. Define career and life planning strategies and resources including goal setting and time management, learning styles and self-awareness, building a positive work ethic and leadership qualities;
L7. Analyze beliefs, attitudes, biases, stereotypes, and behaviors in individuals and communities regarding temporary needs, problems and concerns facing society;
L8. Understand the importance of physical fitness and its impact on an individual's physical and mental health;
L9. Use technology to analyze problems and create solutions.

General Education Review Request
AREA VII – LIFELONG LEARNING

Course Number & Title: PHED 22E FUNCTIONAL TRAINING FOR THE ENDURANCE ATHLETE

Please map each appropriate component from the **Course Outline of Record** to the appropriate depth and breadth criteria. You can use any part of your COR including course outcomes, expanded content, methods of instruction/evaluation, and/or lab content.

Depth Map: Must include the following:

L1. Acquire and demonstrate knowledge, skills, and attitudes that support the application of information across two or more disciplines of study;

Matching course component(s):
Description: Explore the concept of functional training as it applies to the Endurance athlete. Learn, utilize and understand effective training strategies to promote improved performance by the student. Emphasis placed on the application of skills and improved fitness. The importance of proper nutrition to improve performance will also be included.

L2. Develop practical tools that can be integrated into problem solving and decision making with current day-to-day issues and which can be adapted to future situations;

Matching course component(s):Course Objectives 2D: D. Apply the concepts of functional training in his/her training program. Course Content: B. Putting it all together

L3. Identify current issues and concerns that influence health, communication or learning;

Matching course component(s): Course Objectives G.: Understand the pro's and con's of performance enhancing drugs.
Course Objectives C: The evolution of physical training

L4. Comprehend and apply health and well-being issues to the individual and to society;

Matching course component(s): Course Description : Explore the concept of functional training as it applies to the Endurance athlete. Learn, utilize and understand effective training strategies to promote improved performance by the student. Emphasis placed on the application of skills and improved fitness. The importance of proper nutrition to improve performance will also be included.

L5. Find, evaluate, use and communicate information in all of its various formats and understand the ethical and legal implications of the use of that information.

Matching course component(s): Course Objectives G: Understand the pro's and con's of performance enhancing drugs.

Depth Map: Additionally, must include at least one of the following:

L6. Define career and life planning strategies and resources including goal setting and time management, learning styles and self-awareness, building a positive work ethic and leadership qualities;

Matching course component(s): Course Content : B. Putting it all together
1. What is the goal
2. How much time to achieve the goals
3. What training approach works best

L7. Analyze beliefs, attitudes, biases, stereotypes, and behaviors in individuals and communities regarding temporary needs, problems and concerns facing society;

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Matching course component(s):

L8. Understand the importance of physical fitness and its impact on an individual's physical and mental health;

Matching course component(s): Course Description : Explore the concept of functional training as it applies to the Endurance athlete. Learn, utilize and understand effective training strategies to promote improved performance by the student. Emphasis placed on the application of skills and improved fitness. The importance of proper nutrition to improve performance will also be included.

L9. Use technology to analyze problems and create solutions.

Matching course component(s):

Breadth Mapping: please indicate all that apply (if applicable)

B1. Communication (analytical reading, writing, speaking, and listening skills including evaluation, synthesis, and research)

Matching course component(s):

B2. Computation (application of mathematical concepts, and/or using principles of data collection andanalysis to solve problems).

Matching course component(s):

B3. Clearly and precisely express their ideas in a logical and organized manner using the discipline-appropriate language

Matching course component(s): course content E: Functional training for the Endurance Athlete **1. Interacting with the operational environment** **2. Biomechanical characteristics** **3. Training implications** **F. Participation in workout program** **1. The need for planning** **2. Periodization**

B4. Community and global consciousness and responsibility (consideration of one's role in society at the local, regional, national, and global level in the context of cultural constructs and historical and contemporary events and issues).

Matching course component(s):

B5. Information competency (ability to identify an information need, to find, evaluate and use information to meet that need in a legal and ethical way) and digital literacy (to teach and assess basic computer concepts and skills so that people can use computer technology in everyday life to develop new social and economic opportunities for themselves, their families, and their communities).

Matching course component(s):

General Education Review Request
AREA VII – LIFELONG LEARNING

Requesting Faculty: Don Mac Neil Date: June 17, 2012

Division Curr Rep: Barbara Shewfelt Date: June 26,2012

REVIEW COMMITTEE USE ONLY:

Review Committee Members:

Bernie Day
Bruce McLeod
Lety Serna

Comments:

Recommend approval 3/21/13

Approved:_____ Denied:_____ CCC Co-Chair Signature:_____ Date:_____

FOOTHILL COLLEGE
Stand-Alone Course Approval Request

Course #: GEOG/GIST 53 **Division:** BSS

Course Title: ADVANCED GEOSPATIAL TECHNOLOGY & SPATIAL ANALYSIS

Catalog Description:

Introduction to problem-solving and decision making using geospatial analysis techniques, applicable to a range of disciplines.

Explain briefly how the proposed course satisfies the following five criteria:

Criteria A. -- Appropriateness to Mission

1. The objectives of this course, as defined in the course outline, are consistent with the mission of the California Community Colleges as established by Education Code 66010.4, especially in that this course:

This is a new course. It will be part of the GEOG AA and GEOG AA-T degree, as well as the GIST AA degree. Once it is approved, it will become a part of these degrees and will no longer be a stand alone course.

2. *"A well-educated population being essential to sustaining and enhancing a democratic society, Foothill College commits itself to providing access to outstanding educational opportunities for all of our students. Whether through basic skills, career preparation, lifelong learning, or transfer, the members of the Foothill College community are dedicated to the achievement of learning and to the success of our students. We affirm that our unwavering dedication to this mission is critical to the prosperity of our community, our state, our nation, and the global community to which all people are members."*
Adopted June 24, 2009

This course is congruent with the Foothill College mission statement in that it:

This is a new course. It will be part of the GEOG AA and GEOG AA-T degree, as well as the GIST AA degree. Once it is approved, it will become a part of these degrees and will no longer be a stand alone course.

Criteria B. -- Need (Explain)

This is a new course. It will be part of the GEOG AA and GEOG AA-T degree, as well as the GIST AA degree. Once it is approved, it will become a part of these degrees and will no longer be a stand alone course.

Criteria C. -- Curriculum Standards (please initial as appropriate)

KAM The outline of record for this course has been approved the Division Curriculum Committee and meets the requirements of Title 5.

_____ This course is not either degree-applicable or transferable as an articulated lower division major preparation requirement. ("55805.5. Types of Courses Appropriate to the Associate Degree" criteria does not apply.)

Criteria D. -- Adequate Resources (please initial as appropriate)

KAM This course will be administered in the same manner as existing courses in terms of funding, faculty, facilities and equipment.

Criteria E. – Compliance (please initial as appropriate)

KAM The design of the course is not in conflict with any law particularly in regard to enrollment restrictions and licensing or accreditation standards.

Faculty Requestor: **K. Allison Lenkeit Meezan** **Date:** **10/23/12**

Division Curriculum Representative: **Patricia Gibbs** **Date:** **4/08/12**

College Curriculum Co-Chairman: **Date:**

Foothill College Mission Statement:

Our Vision
Foothill College envisions itself as a community of scholars where a diverse population of students, faculty and staff intersect and are engaged in the search for truth and meaning. We recognize that by necessity this search must be informed by a multiplicity of disciplinary modes of inquiry. In order to ensure that every student has the opportunity to share in this vision, Foothill College commits itself to providing students with the necessary student support services, outstanding instruction, and opportunities for leadership both within and outside the classroom. By enacting this vision, the college ensures that it remains the distinctive and innovative institution it has been since its inception.

Our Values
HONESTY • INTEGRITY • TRUST • OPENNESS • TRANSPARENCY • FORGIVENESS • SUSTAINABILITY

Our Purpose
To provide access to educational opportunity for all with innovation and distinction.

Our Mission
A well-educated population being essential to sustaining and enhancing a democratic society, Foothill College commits itself to providing access to outstanding educational opportunities for all of our students. Whether through basic skills, career preparation, lifelong learning, or transfer, the members of the Foothill College community are dedicated to the achievement of learning and to the success of our students. We affirm that our unwavering dedication to this mission is critical to the prosperity of our community, our state, our nation, and the global community to which all people are members.

CCC System Office: Program and Course Approval Handbook—March 2003

Stand-alone Courses That Require Chancellor's Office Approval

New courses not part of an approved program must be submitted to the Chancellor's Office for approval before being offered. This includes all non-degree-applicable courses. By definition, these courses are not part of any approved program.

Stand-alone courses will be reviewed using the same five broad criteria that are used for program approval:

- Mission
- Need
- Quality
- Feasibility
- Compliance

Approval Criteria

This section discusses the five criteria used by the Chancellor's Office to approve programs. A college must document that a proposed program meets all of these criteria before it will be approved. These criteria also broadly apply to the review of new courses.

These five criteria have been derived from statute, regulation, intersegmental agreements, guidelines provided by transfer institutions and industry, and the experience of those involved in the intersegmental and occupational review of courses, as well as the standards of good practice established in the field of curriculum design.

Appropriateness to Mission

The stated goals and objectives of the proposed program, or the objectives defined in the course Outline of Record, are consistent with the mission of the community colleges as established by the Legislature in the Education Code:

> **66010.4. Missions and function of public and independent institutions of higher education**
> The missions and functions of California's public and independent segments, and their respective institutions of higher education shall be differentiated as follows:
>
> (a) (1) The California Community Colleges shall, as a primary mission, offer academic and vocational instruction at the lower division level for both younger and older students, including those persons returning to school. Public community colleges shall offer instruction through but not beyond the second year of college. These institutions may grant the associate in arts and the associate in science degree.
>
> (2) In addition to the primary mission of academic and vocational instruction, the community colleges shall offer instruction and courses to achieve all of the following:
>
> (A) The provision of remedial instruction for those in need of it and, in conjunction with the school districts, instruction in English as a second language, adult noncredit instruction, and support services which help students succeed at the postsecondary level are reaffirmed and supported as essential and important functions of the community colleges.
>
> (B) The provision of adult noncredit education curricula in areas defined as being in the state's interest is an essential and important function of the community colleges.
>
> (C) The provision of community services courses and programs is an authorized function of the community colleges so long as their provision is compatible with an institution's ability to meet its obligations in its primary missions.
>
> (3) A primary mission of the California Community Colleges is to advance California's economic growth and global competitiveness through education, training, and services that contribute to continuous work force improvement.
>
> (4) The community colleges may conduct to the extent that state funding is provided, institutional research concerning student learning and retention as is needed to facilitate their educational missions

Curriculum falls within the mission when designed for lower division credit towards the degree, for purposes of transfer, occupational preparation, economic development, or career supplementation or upgrade. Non degree-applicable courses that develop the ability of enrolled students to succeed in college level courses, and adult noncredit instruction also fall within the mission. Community service and contract classes do not qualify for state funding, but are authorized if they are self-supporting.

For courses to be mission appropriate, they must provide systematic instruction in a body of content or skills whose mastery forms the basis of the student grade.
Following are some of the points the Chancellor's Office evaluates in judging whether a course or program fits within the system's mission:

- A program or course must be directed at the appropriate level for community colleges; that is, it must not be directed either at at a level beyond the associate degree or the first two years of college, or at the primary or secondary school level.
- A program or course must address a valid transfer, occupational, or basic skills purpose. It must not be primarily a vocational or recreational.
- A course must provide distinct instructional content and specific instructional objectives. It must not provide only an activity or service, without instructional content (e.g., assistive or therapeutic activity, use of college facilities or resources without specific instructional objectives, or assessment testing).

Programs and courses should also be congruent with the mission statement and comprehensive or master plan of the college and district.

Need

There is a demonstrable need for a course or program that meets the stated goals and objectives, at this time, and in the region the college proposes to serve with the program. The proposed new program would not cause harmful competition with any existing program at another college.

For transfer curriculum, need is presumed to exist if there is student demand for a program or course and its transfer applicability for a university major has been demonstrated; i.e., if it has been shown that the coursework required for the community college program substantially satisfies the lower-division coursework requirements for the corresponding university major.

For programs that are primarily occupational, or that respond to economic development interests, need must be demonstrated by supplying labor market information, an employer survey, and a job market analysis, or other comparable information that shows that jobs are available for program completers, and/or that job enhancement or upgrade are needed. In addition, a recommendation for approval must be obtained from the Regional Occupational Consortium.

The ordinary expectation is that labor market need must be shown within the service area of the individual college. However, if cooperative planning with neighboring colleges has occurred, labor market evidence for the region as a whole may be sufficient. (The composition of the 10 regions for vocational education, economic development, and workforce preparation purposes may be viewed on the World Wide Web at **http://www.cccco.edu/divisions/esed/voced/advisors/consortia.htm** .) Statewide or national labor market evidence may be included as supplementary support, but is not ordinarily acceptable in itself without specific service area or regional evidence of need. If the college believes the program has statewide or national importance and wishes to substitute statewide or national labor market evidence for local evidence, an explicit justification of why this is appropriate must be included.

Here are examples of the types of evidence of occupational need that may be submitted:

- Statistical projections of growth in specific jobs by county (or labor market area) from the Employment Development Department's Labor Market Information system. • Employer surveys.
- Industry studies.
- Regional economic studies.
- Letters from employers.
- Minutes of industry advisory committee meetings.
- Job advertisements, from newspapers or the World Wide Web.
- Newspaper or magazine articles on industry or employment trends.
- Studies or data from licensing agencies or professional associations.

Further specifics on occupational need are found in the Instructions for completing the application form for approval of a new occupational program.

Quality

Outlines of Record for each course meet all the requirements of Title 5, especially Sections 55002 and 55805.5. (See "Standards for All Courses, " p. 29.)
The program is designed so that successfully completing the program requirements will enable students to fulfill the program goals and objectives.
Courses and programs are integrated, with courses designed to effectively meet their objectives and the goals and objectives of the programs for which they are required.

Feasibility

The college has the resources realistically to maintain the program at the level of quality described in the new program application. This includes funding, faculty, and facilities and equipment.
The college commits to offering all the required courses for the program at least once every two years, unless the goals and rationale for the particular program justify a longer time frame as being in the best interests of students.
In the case of courses, the college has the resources needed to offer the course at the level of quality described in the Outline of Record.

Compliance

The design of the program or the course is not in conflict with any law. This includes both state and federal laws, and both statutes and regulations. It includes laws particularly affecting community colleges, as well as any other law that may affect the program or course (for example, licensing laws in a particular occupation).

Some of the areas of law in which compliance conflicts have arisen include:
- Open course regulations
- Course repeatability regulations
- Regulations requiring immediate supervision by a qualified instructor.
- Statutes and regulations on student fees.
- Prerequisite and enrollment limitation regulations.

- Particular provisions of the practice act for a health occupation.
- Constitutional prohibitions against political and religious activities in public instruction.

Because a number of compliance problems have arisen in the areas of fees and program admissions procedures, the Chancellor's Office has added a section to the program approval application asking colleges to discuss the fees charged and the program admission policies in programs for which approval is requested.

FOOTHILL COLLEGE
Stand-Alone Course Approval Request

Course #: LINC 57 **Division: Fine Arts & Communication**
Course Title: DESIGNING LEARNER-CENTERED INSTRUCTION

Catalog Description:

Educators will examine the learner-centered approach to teaching in order to create transformative experiences for students. Educators develop the skills and conceptual knowledge for instructional design and creating student-centered learning activities that meet Common Core and content standards. Topics addressed include how learning happens, the role of educational technologies in student engagement, and effective modifications to existing instructional material. Following the learner-centered classroom guidelines, educators will create a multi-disciplinary unit of instruction that is aligned to teaching standards and include both formative and summative assessments.

Explain briefly how the proposed course satisfies the following five criteria:

Criteria A. -- Appropriateness to Mission

1. The objectives of this course, as defined in the course outline, are consistent with the mission of the California Community Colleges as established by Education Code 66010.4, especially in that this course:

advances California's economic growth and global competitiveness through education and training in the field of educational technology that contributes knowledge and skill for continuous work force improvement for learners and practitioners in the field and every other workforce area.

2. *"A well-educated population being essential to sustaining and enhancing a democratic society, Foothill College commits itself to providing access to outstanding educational opportunities for all of our students. Whether through basic skills, career preparation, lifelong learning, or transfer, the members of the Foothill College community are dedicated to the achievement of learning and to the success of our students. We affirm that our unwavering dedication to this mission is critical to the prosperity of our community, our state, our nation, and the global community to which all people are members."*
Adopted June 24, 2009

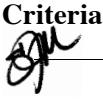
This course is congruent with the Foothill College mission statement in that it:

provides education and training pertinent to workforce development, career preparation and lifelong learning primarily for educators and trainers and by extension, every other field.

Criteria B. -- Need (Explain)

This Workforce Education course provides specialized training for strategic partners in college vocational programs, high schools, economic development initiatives, ROP, and capacity development projects for stakeholders in grades 7-12.

Criteria C. -- Curriculum Standards (please initial as appropriate)



The outline of record for this course has been approved the Division Curriculum Committee and meets the requirements of Title 5.

_____ This course is not either degree-applicable or transferable as an articulated lower division major preparation requirement. ("55805.5. Types of Courses Appropriate to the Associate Degree" criteria does not apply.)

Criteria D. -- Adequate Resources (please initial as appropriate)

This course will be administered in the same manner as existing courses in terms of funding, faculty, facilities and equipment.

Criteria E. – Compliance (please initial as appropriate)

The design of the course is not in conflict with any law particularly in regard to enrollment restrictions and licensing or accreditation standards.

Faculty Requestor: _____ **Date: 03/14/13**

Division Curriculum Representative: Simon Pennington _____ **Date: 4.4.13**____

College Curriculum Co-Chairman: _____ **Date:** _____

FOOTHILL COLLEGE
Stand-Alone Course Approval Request

Course #: LINC59 **Division: Fine Arts & Communication**
Course Title: INTEGRATING 21ST CENTURY SKILLS INTO INSTRUCTION

Catalog Description:

This course is for educators at all levels (K-12, college) and trainers of any discipline to develop the knowledge, skills, and attitude necessary to create instructional experiences integrated with 21st Century skills, such as critical thinking, creativity and problem solving, collaboration, and communication. Participants will examine the skills that business and industry determine important for new employees to know in order to succeed in a 21st Century global economy. Participants determine the importance of integrating 21st Century skills into their courses, analyze their curriculum content and instructional strategies to determine which 21st Century skills they currently teach and which additional skills can be integrated. The final course project is a lesson, unit, or project that requires the participants' students or trainees to use 21st Century skills

Explain briefly how the proposed course satisfies the following five criteria:

Criteria A. -- Appropriateness to Mission

1. The objectives of this course, as defined in the course outline, are consistent with the mission of the California Community Colleges as established by Education Code 66010.4, especially in that this course:

advances California's economic growth and global competitiveness through education and training in the field of educational technology that contributes knowledge and skill for continuous work force improvement for learners and practitioners in the field and every other workforce area.

2. *"A well-educated population being essential to sustaining and enhancing a democratic society, Foothill College commits itself to providing access to outstanding educational opportunities for all of our students. Whether through basic skills, career preparation, lifelong learning, or transfer, the members of the Foothill College community are dedicated to the achievement of learning and to the success of our students. We affirm that our unwavering dedication to this mission is critical to the prosperity of our community, our state, our nation, and the global community to which all people are members."*
Adopted June 24, 2009

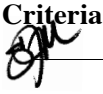
This course is congruent with the Foothill College mission statement in that it:

provides education and training pertinent to workforce development, career preparation and lifelong learning primarily for educators and trainers and by extension, every other field.

Criteria B. -- Need (Explain)

This Workforce Education course provides specialized training for strategic partners in college vocational programs, high schools, economic development initiatives, ROP, and capacity development projects for stakeholders in grades 7-12.

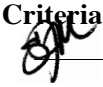
Criteria C. -- Curriculum Standards (please initial as appropriate)



____ The outline of record for this course has been approved the Division Curriculum Committee and meets the requirements of Title 5.

____ This course is not either degree-applicable or transferable as an articulated lower division major preparation requirement. ("55805.5. Types of Courses Appropriate to the Associate Degree" criteria does not apply.)

Criteria D. -- Adequate Resources (please initial as appropriate)



____ This course will be administered in the same manner as existing courses in terms of funding, faculty, facilities and equipment.

Criteria E. – Compliance (please initial as appropriate)

____ The design of the course is not in conflict with any law particularly in regard to enrollment restrictions and licensing or accreditation standards.

Faculty Requestor: _____ **Date: 03/14/13**

Division Curriculum Representative: Simon Pennington _____ **Date: 4.4.13**____

College Curriculum Co-Chairman: _____ **Date:** _____

FOOTHILL COLLEGE
Stand-Alone Course Approval Request

Course #: LINC67 **Division: Fine Arts & Communication**
Course Title: DESIGNING WEB-BASED LEARNING PROJECTS

Catalog Description:

This course is for educators or anyone who wants to create online projects that promote inquiry-based student learning and effective use of Web 2.0 tools for research. Participants will generate ideas for projects, like Webquests or virtual tours, and develop their own project with focus and purpose. Participants will learn how to align their project with the Common Core State Standards requiring students to synthesize information by completing a challenge task.

Explain briefly how the proposed course satisfies the following five criteria:

Criteria A. -- Appropriateness to Mission

1. The objectives of this course, as defined in the course outline, are consistent with the mission of the California Community Colleges as established by Education Code 66010.4, especially in that this course:

advances California's economic growth and global competitiveness through education and training in the field of educational technology that contributes knowledge and skill for continuous work force improvement for learners and practitioners in the field and every other workforce area.

2. *"A well-educated population being essential to sustaining and enhancing a democratic society, Foothill College commits itself to providing access to outstanding educational opportunities for all of our students. Whether through basic skills, career preparation, lifelong learning, or transfer, the members of the Foothill College community are dedicated to the achievement of learning and to the success of our students. We affirm that our unwavering dedication to this mission is critical to the prosperity of our community, our state, our nation, and the global community to which all people are members."*
Adopted June 24, 2009

This course is congruent with the Foothill College mission statement in that it:

provides education and training pertinent to workforce development, career preparation and lifelong learning primarily for educators and trainers and by extension, every other field.

Criteria B. -- Need (Explain)

This Workforce Education course provides specialized training for strategic partners in college vocational programs, high schools, economic development initiatives, ROP, and capacity development projects for stakeholders in grades 7-12.

Criteria C. -- Curriculum Standards (please initial as appropriate)

_____ The outline of record for this course has been approved the Division Curriculum Committee and meets the requirements of Title 5.

_____ This course is not either degree-applicable or transferable as an articulated lower division major preparation requirement. ("55805.5. Types of Courses Appropriate to the Associate Degree" criteria does not apply.)

Criteria D. -- Adequate Resources (please initial as appropriate)

_____ This course will be administered in the same manner as existing courses in terms of funding, faculty, facilities and equipment.

Criteria E. – Compliance (please initial as appropriate)

_____ The design of the course is not in conflict with any law particularly in regard to enrollment restrictions and licensing or accreditation standards.

Faculty Requestor: _____ **Date: 03/14/13**

Division Curriculum Representative: Simon Pennington _____ **Date: 4.4.13**

College Curriculum Co-Chairman: _____ **Date:** _____

FOOTHILL COLLEGE
Stand-Alone Course Approval Request

Course #: LINC68B **Division: Fine Arts & Communication**
Course Title: GOOGLE DOCUMENTS

Catalog Description:

This course is an introduction to Google Docs, the free online word processing application in the Google office suite, which allows people to collaborate on a single version of a document. Google docs is a powerful, easy to use application for teachers, students, groups, and organizations that want to share and collaborate with documents online. Participants will have hands-on experience creating, formatting, editing, saving, sharing, printing documents, inserting graphics, composing tables, and working collaboratively on a single document.

Explain briefly how the proposed course satisfies the following five criteria:

Criteria A. -- Appropriateness to Mission

1. The objectives of this course, as defined in the course outline, are consistent with the mission of the California Community Colleges as established by Education Code 66010.4, especially in that this course:

advances California's economic growth and global competitiveness through education and training in the field of educational technology that contributes knowledge and skill for continuous work force improvement for learners and practitioners in the field and every other workforce area.

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Adopted June 24, 2009

This course is congruent with the Foothill College mission statement in that it:

provides education and training pertinent to workforce development, career preparation and lifelong learning primarily for educators and trainers and by extension, every other field.

Criteria B. -- Need (Explain)

This Workforce Education course provides specialized training for strategic partners in college vocational programs, high schools, economic development initiatives, ROP, and capacity development projects for stakeholders in grades 7-12.

Criteria C. -- Curriculum Standards (please initial as appropriate)

___ The outline of record for this course has been approved the Division Curriculum Committee and meets the requirements of Title 5.

___ This course is not either degree-applicable or transferable as an articulated lower division major preparation requirement. ("55805.5. Types of Courses Appropriate to the Associate Degree" criteria does not apply.)

Criteria D. -- Adequate Resources (please initial as appropriate)

___ This course will be administered in the same manner as existing courses in terms of funding, faculty, facilities and equipment.

Criteria E. – Compliance (please initial as appropriate)

___ The design of the course is not in conflict with any law particularly in regard to enrollment restrictions and licensing or accreditation standards.

Faculty Requestor: _____ **Date: 03/14/13**

Division Curriculum Representative: Simon Pennington _____ **Date: 4.4.13**

College Curriculum Co-Chairman: _____ **Date:** _____

FOOTHILL COLLEGE
Stand-Alone Course Approval Request

Course #: LINC88 **Division: Fine Arts & Communication**
Course Title: INTRODUCTION TO COMPUTER OPERATING SYSTEMS

Catalog Description:

This introductory course covers computer operating systems such as Microsoft Windows NT, Vista, Windows 7, Windows 8, and Linux. Students learn to install, configure, and administer a desktop operating system, automate operating system installation, set up and manage user accounts, and configure local file systems. They learn to configure and troubleshoot both local and network printers, manage and troubleshoot access to shared folders, and recover from system failures.

Explain briefly how the proposed course satisfies the following five criteria:

Criteria A. -- Appropriateness to Mission

1. The objectives of this course, as defined in the course outline, are consistent with the mission of the California Community Colleges as established by Education Code 66010.4, especially in that this course:

advances California's economic growth and global competitiveness through education and training in the field of educational technology that contributes knowledge and skill for continuous work force improvement for learners and practitioners in the field and every other workforce area.

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Adopted June 24, 2009

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provides education and training pertinent to workforce development, career preparation and lifelong learning primarily for educators and trainers and by extension, every other field.

Criteria B. -- Need (Explain)

This Workforce Education course provides specialized training for strategic partners in college vocational programs, high schools, economic development initiatives, ROP, and capacity development projects for stakeholders in grades 7-12.

Criteria C. -- Curriculum Standards (please initial as appropriate)

___ The outline of record for this course has been approved the Division Curriculum Committee and meets the requirements of Title 5.

_____ This course is not either degree-applicable or transferable as an articulated lower division major preparation requirement. ("55805.5. Types of Courses Appropriate to the Associate Degree" criteria does not apply.)

Criteria D. -- Adequate Resources (please initial as appropriate)

___ This course will be administered in the same manner as existing courses in terms of funding, faculty, facilities and equipment.

Criteria E. – Compliance (please initial as appropriate)

___ The design of the course is not in conflict with any law particularly in regard to enrollment restrictions and licensing or accreditation standards.

Faculty Requestor: _____ **Date: 03/14/13**

Division Curriculum Representative: Simon Pennington _____ **Date: 4.4.13**____

College Curriculum Co-Chairman: _____ **Date:** _____

FOOTHILL COLLEGE
Stand-Alone Course Approval Request

Course #: LINC 89 **Division: Fine Arts & Communication**
Course Title: INTRODUCTION TO MICROSOFT WINDOWS SERVERS

Catalog Description:

This introductory course covers the fundamentals of Microsoft Windows Server infrastructure, setup and administration. Topics include managing file systems (including Active Directory Domain Services (AD DS), networking services, Hyper-V configuration, devices, user accounts, backups, and basic security.

Explain briefly how the proposed course satisfies the following five criteria:

Criteria A. -- Appropriateness to Mission

1. The objectives of this course, as defined in the course outline, are consistent with the mission of the California Community Colleges as established by Education Code 66010.4, especially in that this course:

advances California's economic growth and global competitiveness through education and training in the field of educational technology that contributes knowledge and skill for continuous work force improvement for learners and practitioners in the field and every other workforce area.

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Adopted June 24, 2009

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provides education and training pertinent to workforce development, career preparation and lifelong learning primarily for educators and trainers and by extension, every other field.

Criteria B. -- Need (Explain)

This Workforce Education course provides specialized training for strategic partners in college vocational programs, high schools, economic development initiatives, ROP, and capacity development projects for stakeholders in grades 7-12.

Criteria C. -- Curriculum Standards (please initial as appropriate)

___ The outline of record for this course has been approved the Division Curriculum Committee and meets the requirements of Title 5.

_____ This course is not either degree-applicable or transferable as an articulated lower division major preparation requirement. ("55805.5. Types of Courses Appropriate to the Associate Degree" criteria does not apply.)

Criteria D. -- Adequate Resources (please initial as appropriate)

___ This course will be administered in the same manner as existing courses in terms of funding, faculty, facilities and equipment.

Criteria E. – Compliance (please initial as appropriate)

___ The design of the course is not in conflict with any law particularly in regard to enrollment restrictions and licensing or accreditation standards.

Faculty Requestor: _____ **Date: 03/14/13**

Division Curriculum Representative: Simon Pennington _____ **Date: 4.4.13**

College Curriculum Co-Chairman: _____ **Date:** _____

FOOTHILL COLLEGE
Stand-Alone Course Approval Request

Course #: LINC94 **Division: Fine Arts & Communication**
Course Title: INTRODUCTION TO COMPUTER NETWORKS

Catalog Description:

This course covers fundamental networking concepts and develops the skills and knowledge to set up and maintain small business/home networks. The course is not hardware or vendor specific. It helps students prepare for the "Network +" certification exam, an industry- wide, vendor-neutral certification program developed and sponsored by the Computing Technology Industry Association (CompTIA).

Explain briefly how the proposed course satisfies the following five criteria:

Criteria A. -- Appropriateness to Mission

1. The objectives of this course, as defined in the course outline, are consistent with the mission of the California Community Colleges as established by Education Code 66010.4, especially in that this course:

advances California's economic growth and global competitiveness through education and training in the field of educational technology that contributes knowledge and skill for continuous work force improvement for learners and practitioners in the field and every other workforce area.

2. *"A well-educated population being essential to sustaining and enhancing a democratic society, Foothill College commits itself to providing access to outstanding educational opportunities for all of our students. Whether through basic skills, career preparation, lifelong learning, or transfer, the members of the Foothill College community are dedicated to the achievement of learning and to the success of our students. We affirm that our unwavering dedication to this mission is critical to the prosperity of our community, our state, our nation, and the global community to which all people are members."*
Adopted June 24, 2009

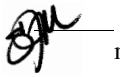
This course is congruent with the Foothill College mission statement in that it:

provides education and training pertinent to workforce development, career preparation and lifelong learning primarily for educators and trainers and by extension, every other field.

Criteria B. -- Need (Explain)

This Workforce Education course provides specialized training for strategic partners in college vocational programs, high schools, economic development initiatives, ROP, and capacity development projects for stakeholders in grades 7-12.

Criteria C. -- Curriculum Standards (please initial as appropriate)



The outline of record for this course has been approved the Division Curriculum Committee and meets the requirements of Title 5.

_____ This course is not either degree-applicable or transferable as an articulated lower division major preparation requirement. ("55805.5. Types of Courses Appropriate to the Associate Degree" criteria does not apply.)

Criteria D. -- Adequate Resources (please initial as appropriate)

This course will be administered in the same manner as existing courses in terms of funding, faculty, facilities and equipment.

Criteria E. – Compliance (please initial as appropriate)

The design of the course is not in conflict with any law particularly in regard to enrollment restrictions and licensing or accreditation standards.

Faculty Requestor: _____ **Date: 03/14/13**

Division Curriculum Representative: Simon Pennington _____ **Date: 4.4.13**____

College Curriculum Co-Chairman: _____ **Date:** _____

FOOTHILL COLLEGE
Stand-Alone Course Approval Request

Course #: LINC97 **Division: Fine Arts & Communication**
Course Title: IPADS IN EDUCATION

Catalog Description:

Tablet computer technology is having greater influence in education and impacting student learning with mobile, rich media applications. Teachers, educators, and students enrolled in this course will explore using the Apple iPad in every level of education; analyze changes mobile computing brings to the teaching and learning environment; evaluate applications relevant for academic disciplines and that reflect the Common Core State Standards. This hands-on class provides practice in using iPads in a classroom setting and for developing instructional resources and learning aids.

Explain briefly how the proposed course satisfies the following five criteria:

Criteria A. -- Appropriateness to Mission

1. The objectives of this course, as defined in the course outline, are consistent with the mission of the California Community Colleges as established by Education Code 66010.4, especially in that this course:

advances California's economic growth and global competitiveness through education and training in the field of educational technology that contributes knowledge and skill for continuous work force improvement for learners and practitioners in the field and every other workforce area.

2. *"A well-educated population being essential to sustaining and enhancing a democratic society, Foothill College commits itself to providing access to outstanding educational opportunities for all of our students. Whether through basic skills, career preparation, lifelong learning, or transfer, the members of the Foothill College community are dedicated to the achievement of learning and to the success of our students. We affirm that our unwavering dedication to this mission is critical to the prosperity of our community, our state, our nation, and the global community to which all people are members."*
Adopted June 24, 2009

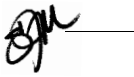
This course is congruent with the Foothill College mission statement in that it:

provides education and training pertinent to workforce development, career preparation and lifelong learning primarily for educators and trainers and by extension, every other field.

Criteria B. -- Need (Explain)

This Workforce Education course provides specialized training for strategic partners in college vocational programs, high schools, economic development initiatives, ROP, and capacity development projects for stakeholders in grades 7-12.

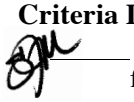
Criteria C. -- Curriculum Standards (please initial as appropriate)



_____ The outline of record for this course has been approved the Division Curriculum Committee and meets the requirements of Title 5.

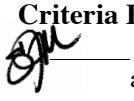
_____ This course is not either degree-applicable or transferable as an articulated lower division major preparation requirement. ("55805.5. Types of Courses Appropriate to the Associate Degree" criteria does not apply.)

Criteria D. -- Adequate Resources (please initial as appropriate)



_____ This course will be administered in the same manner as existing courses in terms of funding, faculty, facilities and equipment.

Criteria E. – Compliance (please initial as appropriate)



_____ The design of the course is not in conflict with any law particularly in regard to enrollment restrictions and licensing or accreditation standards.

Faculty Requestor: _____ **Date: 03/14/13**

Division Curriculum Representative: Simon Pennington _____ **Date: 4.4.13**

College Curriculum Co-Chairman: _____ **Date:** _____

FOOTHILL COLLEGE
Stand-Alone Course Approval Request

Course #: NCEL 411 **Division:** Language Arts

Course Title: ADVANCED-BEGINNING ENGLISH AS A SECOND LANGUAGE I

Catalog Description:

This is an introductory advanced-beginning level integrated skills course for learners of English as an additional language. The focus of this course is on developing a basic level of grammar and vocabulary through listening, speaking, reading and writing so that learners can communicate with other English speakers in and outside of the classroom.

Explain briefly how the proposed course satisfies the following five criteria:

Criteria A. -- Appropriateness to Mission

1. The objectives of this course, as defined in the course outline, are consistent with the mission of the California Community Colleges as established by Education Code 66010.4, especially in that this course:

NCEL 411 is a basic skills course, part of the mission of Community Colleges in California.

2. *"A well-educated population being essential to sustaining and enhancing a democratic society, Foothill College commits itself to providing access to outstanding educational opportunities for all of our students. Whether through basic skills, career preparation, lifelong learning, or transfer, the members of the Foothill College community are dedicated to the achievement of learning and to the success of our students. We affirm that our unwavering dedication to this mission is critical to the prosperity of our community, our state, our nation, and the global community to which all people are members." Adopted June 24, 2009*

This course is congruent with the Foothill College mission statement in that it:

NCEL 411 is a basic skills course, part of the mission of Foothill College.

Criteria B. -- Need (Explain)

There is growing demand for basic, affordable ESLL courses in our service area. We are currently developing a non-credit path to our ESLL credit program; this non-credit curriculum serves to prepare students for college level work in ESLL.

Criteria C. -- Curriculum Standards (please initial as appropriate)

RM The outline of record for this course has been approved the Division Curriculum Committee and meets the requirements of Title 5.

RM This course is not either degree-applicable or transferable as an articulated lower division major preparation requirement. ("55805.5. Types of Courses Appropriate to the Associate Degree" criteria does not apply.)

Criteria D. -- Adequate Resources (please initial as appropriate)

RM This course will be administered in the same manner as existing courses in terms of funding, faculty, facilities and equipment.

Criteria E. – Compliance (please initial as appropriate)

RM The design of the course is not in conflict with any law particularly in regard to enrollment restrictions and licensing or accreditation standards.

Faculty Requestor: Richard Morasci **Date: 2/19/13**

Division Curriculum Representative: Kella Svetich **Date: 3/20/13**

College Curriculum Co-Chairman: _____ **Date:** _____

FOOTHILL COLLEGE
Stand-Alone Course Approval Request

Course #: NCEL 412 **Division:** Language Arts

Course Title: ADVANCED-BEGINNING ENGLISH AS A SECOND LANGUAGE II

Catalog Description:

This is a continuation of the advanced-beginning level integrated skills course for learners of English as an additional language. The focus of this course is on developing a basic level of grammar and vocabulary through listening, speaking, reading and writing so that learners can communicate with other English speakers in and outside of the classroom.

Explain briefly how the proposed course satisfies the following five criteria:

Criteria A. -- Appropriateness to Mission

1. The objectives of this course, as defined in the course outline, are consistent with the mission of the California Community Colleges as established by Education Code 66010.4, especially in that this course:

NCEL 412 is a basic skills course, part of the mission of Community Colleges in California.

2. *"A well-educated population being essential to sustaining and enhancing a democratic society, Foothill College commits itself to providing access to outstanding educational opportunities for all of our students. Whether through basic skills, career preparation, lifelong learning, or transfer, the members of the Foothill College community are dedicated to the achievement of learning and to the success of our students. We affirm that our unwavering dedication to this mission is critical to the prosperity of our community, our state, our nation, and the global community to which all people are members." Adopted June 24, 2009*

This course is congruent with the Foothill College mission statement in that it:

NCEL 412 is a basic skills course, part of the mission of Foothill College.

Criteria B. -- Need (Explain)

There is growing demand for basic, affordable ESLL courses in our service area. We are currently developing a non-credit path to our ESLL credit program; this non-credit curriculum serves to prepare students for college level work in ESLL.

Criteria C. -- Curriculum Standards (please initial as appropriate)

RM The outline of record for this course has been approved the Division Curriculum Committee and meets the requirements of Title 5.

RM This course is not either degree-applicable or transferable as an articulated lower division major preparation requirement. ("55805.5. Types of Courses Appropriate to the Associate Degree" criteria does not apply.)

Criteria D. -- Adequate Resources (please initial as appropriate)

RM This course will be administered in the same manner as existing courses in terms of funding, faculty, facilities and equipment.

Criteria E. – Compliance (please initial as appropriate)

RM The design of the course is not in conflict with any law particularly in regard to enrollment restrictions and licensing or accreditation standards.

Faculty Requestor: *Richard Morasci* **Date: 2/19/13**

Division Curriculum Representative: Kella Svetich **Date: 3/20/13**

College Curriculum Co-Chairman: _____ **Date:** _____

FOOTHILL COLLEGE
Stand-Alone Course Approval Request

Course #: NCEL 413 **Division:** Language Arts

Course Title: ADVANCED-BEGINNING ENGLISH AS A SECOND LANGUAGE III

Catalog Description:

This is the final advanced-beginning level integrated skills course for learners of English as an additional language. The focus of this course is on developing a basic level of grammar and vocabulary through listening, speaking, reading and writing so that learners can communicate with other English speakers in and outside of the classroom.

Explain briefly how the proposed course satisfies the following five criteria:

Criteria A. -- Appropriateness to Mission

1. The objectives of this course, as defined in the course outline, are consistent with the mission of the California Community Colleges as established by Education Code 66010.4, especially in that this course:

NCEL 413 is a basic skills course, part of the mission of Community Colleges in California.

2. *"A well-educated population being essential to sustaining and enhancing a democratic society, Foothill College commits itself to providing access to outstanding educational opportunities for all of our students. Whether through basic skills, career preparation, lifelong learning, or transfer, the members of the Foothill College community are dedicated to the achievement of learning and to the success of our students. We affirm that our unwavering dedication to this mission is critical to the prosperity of our community, our state, our nation, and the global community to which all people are members." Adopted June 24, 2009*

This course is congruent with the Foothill College mission statement in that it:

NCEL 413 is a basic skills course, part of the mission of Foothill College.

Criteria B. -- Need (Explain)

There is growing demand for basic, affordable ESLL courses in our service area. We are currently developing a non-credit path to our ESLL credit program; this non-credit curriculum serves to prepare students for college level work in ESLL.

Criteria C. -- Curriculum Standards (please initial as appropriate)

RM The outline of record for this course has been approved the Division Curriculum Committee and meets the requirements of Title 5.

RM This course is not either degree-applicable or transferable as an articulated lower division major preparation requirement. ("55805.5. Types of Courses Appropriate to the Associate Degree" criteria does not apply.)

Criteria D. -- Adequate Resources (please initial as appropriate)

RM This course will be administered in the same manner as existing courses in terms of funding, faculty, facilities and equipment.

Criteria E. – Compliance (please initial as appropriate)

RM The design of the course is not in conflict with any law particularly in regard to enrollment restrictions and licensing or accreditation standards.

Faculty Requestor: Richard Morasci **Date: 2/19/13**

Division Curriculum Representative: Kella Svetich **Date: 3/20/13**

College Curriculum Co-Chairman: _____ **Date:** _____

FOOTHILL COLLEGE
Stand-Alone Course Approval Request

Course #: NCEL 421 **Division:** Language Arts

Course Title: INTERMEDIATE ENGLISH AS A SECOND LANGUAGE I

Catalog Description:

This is an introductory intermediate level integrated skills course for learners of English as an additional language who already have a basic level of speaking, listening, reading and writing. The focus of this course is to help learners advance in their development of grammar and vocabulary through listening, speaking, reading and writing.

Explain briefly how the proposed course satisfies the following five criteria:

Criteria A. -- Appropriateness to Mission

1. The objectives of this course, as defined in the course outline, are consistent with the mission of the California Community Colleges as established by Education Code 66010.4, especially in that this course:

NCEL 421 is a basic skills course, part of the mission of Community Colleges in California.

2. *"A well-educated population being essential to sustaining and enhancing a democratic society, Foothill College commits itself to providing access to outstanding educational opportunities for all of our students. Whether through basic skills, career preparation, lifelong learning, or transfer, the members of the Foothill College community are dedicated to the achievement of learning and to the success of our students. We affirm that our unwavering dedication to this mission is critical to the prosperity of our community, our state, our nation, and the global community to which all people are members."*
Adopted June 24, 2009

This course is congruent with the Foothill College mission statement in that it:

NCEL 421 is a basic skills course, part of the mission of Foothill College.

Criteria B. -- Need (Explain)

There is growing demand for basic, affordable ESLL courses in our service area. We are currently developing a non-credit path to our ESLL credit program; this non-credit curriculum serves to prepare students for college level work in ESLL.

Criteria C. -- Curriculum Standards (please initial as appropriate)

RM The outline of record for this course has been approved the Division Curriculum Committee and meets the requirements of Title 5.

RM This course is not either degree-applicable or transferable as an articulated lower division major preparation requirement. ("55805.5. Types of Courses Appropriate to the Associate Degree" criteria does not apply.)

Criteria D. -- Adequate Resources (please initial as appropriate)

RM This course will be administered in the same manner as existing courses in terms of funding, faculty, facilities and equipment.

Criteria E. – Compliance (please initial as appropriate)

RM The design of the course is not in conflict with any law particularly in regard to enrollment restrictions and licensing or accreditation standards.

Faculty Requestor: *Richard Morasci* **Date: 2/19/13**

Division Curriculum Representative: Kella Svetich **Date: 3/20/13**

College Curriculum Co-Chairman: _____ **Date:** _____

FOOTHILL COLLEGE
Stand-Alone Course Approval Request

Course #: NCEL 422 **Division:** Language Arts

Course Title: INTERMEDIATE ENGLISH AS A SECOND LANGUAGE II

Catalog Description:

This is a continuation of the intermediate level integrated skills course for learners of English as an additional language who already have a basic level of speaking, listening, reading and writing. The focus of this course is to help learners advance in their development of grammar and vocabulary through listening, speaking, reading and writing.

Explain briefly how the proposed course satisfies the following five criteria:

Criteria A. -- Appropriateness to Mission

1. The objectives of this course, as defined in the course outline, are consistent with the mission of the California Community Colleges as established by Education Code 66010.4, especially in that this course:

NCEL 422 is a basic skills course, part of the mission of Community Colleges in California.

2. *"A well-educated population being essential to sustaining and enhancing a democratic society, Foothill College commits itself to providing access to outstanding educational opportunities for all of our students. Whether through basic skills, career preparation, lifelong learning, or transfer, the members of the Foothill College community are dedicated to the achievement of learning and to the success of our students. We affirm that our unwavering dedication to this mission is critical to the prosperity of our community, our state, our nation, and the global community to which all people are members." Adopted June 24, 2009*

This course is congruent with the Foothill College mission statement in that it:

NCEL 422 is a basic skills course, part of the mission of Foothill College.

Criteria B. -- Need (Explain)

There is growing demand for basic, affordable ESLL courses in our service area. We are currently developing a non-credit path to our ESLL credit program; this non-credit curriculum serves to prepare students for college level work in ESLL.

Criteria C. -- Curriculum Standards (please initial as appropriate)

RM The outline of record for this course has been approved the Division Curriculum Committee and meets the requirements of Title 5.

RM This course is not either degree-applicable or transferable as an articulated lower division major preparation requirement. ("55805.5. Types of Courses Appropriate to the Associate Degree" criteria does not apply.)

Criteria D. -- Adequate Resources (please initial as appropriate)

RM This course will be administered in the same manner as existing courses in terms of funding, faculty, facilities and equipment.

Criteria E. – Compliance (please initial as appropriate)

RM The design of the course is not in conflict with any law particularly in regard to enrollment restrictions and licensing or accreditation standards.

Faculty Requestor: *Richard Morasci* **Date: 2/19/13**

Division Curriculum Representative: Kella Svetich **Date: 3/1/13**

College Curriculum Co-Chairman: _____ **Date:** _____

FOOTHILL COLLEGE
Stand-Alone Course Approval Request

Course #: NCEL 423 **Division:** Language Arts

Course Title: INTERMEDIATE ENGLISH AS A SECOND LANGUAGE III

Catalog Description:

This is the final intermediate level integrated skills course for learners of English as an additional language who already have a basic level of speaking, listening, reading and writing. The focus of this course is help learners advance in their development of grammar and vocabulary through listening, speaking, reading and writing.

Explain briefly how the proposed course satisfies the following five criteria:

Criteria A. -- Appropriateness to Mission

1. The objectives of this course, as defined in the course outline, are consistent with the mission of the California Community Colleges as established by Education Code 66010.4, especially in that this course:

NCEL 423 is a basic skills course, part of the mission of Community Colleges in California.

2. *"A well-educated population being essential to sustaining and enhancing a democratic society, Foothill College commits itself to providing access to outstanding educational opportunities for all of our students. Whether through basic skills, career preparation, lifelong learning, or transfer, the members of the Foothill College community are dedicated to the achievement of learning and to the success of our students. We affirm that our unwavering dedication to this mission is critical to the prosperity of our community, our state, our nation, and the global community to which all people are members." Adopted June 24, 2009*

This course is congruent with the Foothill College mission statement in that it:

NCEL 423 is a basic skills course, part of the mission of Foothill College.

Criteria B. -- Need (Explain)

There is growing demand for basic, affordable ESLL courses in our service area. We are currently developing a non-credit path to our ESLL credit program; this non-credit curriculum serves to prepare students for college level work in ESLL.

Criteria C. -- Curriculum Standards (please initial as appropriate)

RM The outline of record for this course has been approved the Division Curriculum Committee and meets the requirements of Title 5.

RM This course is not either degree-applicable or transferable as an articulated lower division major preparation requirement. ("55805.5. Types of Courses Appropriate to the Associate Degree" criteria does not apply.)

Criteria D. -- Adequate Resources (please initial as appropriate)

RM This course will be administered in the same manner as existing courses in terms of funding, faculty, facilities and equipment.

Criteria E. – Compliance (please initial as appropriate)

RM The design of the course is not in conflict with any law particularly in regard to enrollment restrictions and licensing or accreditation standards.

Faculty Requestor: *Richard Morasci* **Date: 2/19/13**

Division Curriculum Representative: Kella Svetich **Date: 3/20/13**

College Curriculum Co-Chairman: _____ **Date:** _____

Foothill College
Certificate of Achievement in CPA Exam Preparation

Criteria A: Appropriate to Mission

1. Statement of Program Goals and Objectives
The CPA Exam Preparation Certificate of Achievement curriculum prepares holders of a Bachelor's degree to take the Certified Public Accounting board exam.

2. Catalog Description
The Accounting Program offers a variety of courses that covers the knowledge and technical skills necessary to prepare students to become analytical thinkers and possess communication and other interpersonal skills needed to be successful at work, and to equip them for subsequent transfer programs at 4-year colleges and universities. The courses offered within the program teach students to identify record, prepare, and communicate financial information to interested users to help them make sound economic decisions. Students learn about the books of original entry; the general ledger; financial statements; the accounting cycle; plant assets; partnerships; corporations; payroll, business and income taxes; cost systems; cash flow analysis; and differential cost and performance evaluations.

3. Program Requirements
Total Quarter Units: 27
ACTG 51A Intermediate Accounting I (4 units)
ACTG 51B Intermediate Accounting II (4 units)
ACTG 51C Intermediate Accounting III (4 units)
ACTG 58 Auditing (5 units)
ACTG 66 Cost Accounting (5 units)
ACTG 75 Accounting for Government & Not-for-Profit (5 units)

4. Background and Rationale (Optional)
The need for this certificate arose from the fact that a large number of our students already possess four-year degrees and have chosen Foothill College to take the necessary coursework required by the California Board of Accountancy for obtaining the CPA license. The courses for this certificate are part of the existing AA degree in Accounting and will prepare students to sit for the CPA exam.

Criteria B: Need

5. Enrollment and Completer Projections
It is estimated that when the certificate is fully implemented it will yield 40 completers annually.

6. Place of Program in Curriculum/Similar Programs
The CPA Exam Preparation Certificate of Achievement provides courses suitable to the preparation for the CPA exam. This certificate offers those students already with a Bachelor's degree the opportunity to prepare for the CPA exam thereby increasing their employability. Adding this certificate will have no impact on the current program or the resources it uses.

7. Similar Programs at Other Colleges in Service Area
College of San Mateo, CPA Exam Preparation Certificate: Financial Accounting and Auditing, CPA Exam Preparation Certificate: Business Environment and Regulation
http://collegeofsanmateo.edu/accounting/docs/cert_actg.pdf

Santa Monica College, Professional Accountant Certificate of Achievement
http://www.smc.edu/StudentServices/TransferServices/AreasofStudy/Documents/Major_Sheets_for_AA_Degree/accounting_aa.pdf

8. Labor Market Information & Analysis (CTE only)

According to American Institute of Certified Public Accountants there is a great demand to hire Certified Public Accountants in corporate, government, and public accounting sectors. This need has increased tremendously due to retirement of current CPAs and the government regulations dictated by the Sarbanes Oxley Act of 2002. In addition, accountant who submit reports to the Securities and Exchange Commission (SEC) are required to be a Certified Public Accountant (CPA). Any accountant who has passed the CPA exam and fulfilled the other requirements of the State where they practice can become a CPA.

As such, accountants and auditors are expected to experience much faster than average employment growth from 2008-18. According to the State of California's Employment Development Department Labor Market Information the estimated projected increase in accountants is 19.2% or 26,900 jobs to be added between the years of 2008-2018. This is an average annual opening of 5,070 jobs.

Job opportunities should be favorable; accountants and auditors who have a professional certification, especially CPAs, should have the best prospects.

Criteria C: Curriculum Standards

9. Transfer Applicability

The courses in the Certificate are transferable to CSU as electives.

Criteria D: Adequate Resources

10. Facilities, Additional Faculty, New Equipment or Library Resources

No additional resources will be required beyond the college's current facilities, equipment and Library resources. Existing faculty will teach all of the courses required for the certificate. Courses offered in this program will be adequately staffed and managed by faculty in accordance with state minimum qualification standards. All faculty who will teach in this program meet the State minimum qualifications.

Criteria E: Compliance

11a. Enrollment Restrictions

There are no enrollment restrictions other than the requirements for admission to Foothill College and completing the appropriate prerequisite courses or their equivalent.

11b. Licensing or Accreditation Standards

All accounting courses offered by the accounting department are accepted by the California Board of Accountancy as part of the coursework required to take the CPA exam.

FOOTHILL COLLEGE
Credit Program Narrative
Certificate of Achievement in Music History/Literature

Criteria A: Appropriate to Mission

1. Statement of Program Goals and Objectives

The Music department offers an Associate in Arts Degree in Music, a comprehensive course of study that prepares students for transfer to four-year institutions and/or for careers in music and music related industries. Through the study of Music History/Literature, students examine music masterpieces from multiple eras and cultures, synthesizing information and making judgments as they evaluate how music reflects individual composers' lives as well as the contemporary social/historical context in which the compositions were created and performed.

2. Catalog Description

The Associate in Arts Degree in Music History/Literature is a comprehensive course of study preparing the student to transfer to a four-year institution in music or a music related field.

3. Program Requirements

Core Requirements:		
Course Number	**Course Title**	**Units**
MUS 2A	Great Composers & Music Masterpieces of Western Civilization	4
MUS 2B	Great Composers & Music Masterpieces of Western Civilization	4
MUS 2C	Great Composers & Music Masterpieces of Western Civilization	4
MUS 2D	World Music: Roots to Contemporary Global Fusion	4
MUS 8	Music of Multicultural America	4
Restricted Electives:		
Course Number	**Course Title**	**Units**
Other Requirements:		
Course Number	**Course Title**	**Units**
	Subtotal Core Units:	**20**
	Total Program Units:	**20**

4. Background and Rationale

Each academic year, several students complete the sequence of Music History/Literature courses. Completing these courses would assist students transferring to 4-year music programs by providing the historical and stylistic knowledge these programs demand (as identified by the National Association of Schools of Music). This certificate would also help students contemplating music careers through exposure to multiple musical styles, and would document their eligibility for professional organizations (e.g., Music Teachers Association).

Criteria B: Need

5. Enrollment and Completer Projections

		Year 1		**Year 2**	
		Annual	**Annual**	**Annual**	**Annual**

Course #	Course Title	Sections	Enrollment	Sections	Enrollment
MUS 2A	Great Composers and Music Masterpieces of Western Civilization	3	150		
MUS 2B	Great Composers and Music Masterpieces of Western Civilization	3	150		
MUS 2C	Great Composers and Music Masterpieces of Western Civilization	3	150		
MUS 2D	World Music: Roots to Contemporary Global Fusion	4	200		
MUS 8	Music of Multicultural America	20	950		

6. Place of Program in Curriculum/Similar Programs

The five courses in the Music History/Literature sequence are all transfer courses and are part of the core course requirements for the current A.A. degree program.

7. Similar Programs at Other Colleges in Service Area

While other colleges in the Foothill College service area offer general music certificates (e.g., De Anza, Evergreen), none offer a certificate in Music History/Literature.

8. Labor Market Information & Analysis (CTE only)

Not applicable.

9. Employer Survey (CTE only)

Not applicable.

10. Explanation of Employer Relationship (CTE only)

Not applicable.

11. List of Members of Advisory Committee (CTE only)

Not applicable.

12. Recommendations of Advisory Committee (CTE only)

Not applicable.

Criteria C: Curriculum Standards

The program approval process begins with the discipline faculty. The faculty determine the need for a program that may require new courses or a more productive use of current courses. The program is vetted and approved at the Division Curriculum level, forwarded and approved as appropriate by the College Curriculum Committee. The program application is then forwarded to the Foothill-De Anza Community College Board of Trustees. Upon approval by the Board, the application is then sent to the State Chancellor's Office for approval.

13. Display of Proposed Sequence

Suggested Sequence of Courses – XX Total Units					
Year 1					
Fall	Units	Winter	Units	Spring	Units
MUS 2A	4	MUS 2B	4	MUS 2C	4
MUS 8	4	MUS 2D	4		
Total Units	8	Total Units	8 (16)	Total Units	4 (20)

14. Transfer Applicability

MUS 2A CSUC1 IGETC3
MUS 2B CSUC1 IGETC3
MUS 2C CSUC1 IGETC3
MUS 2D CSUC1 IGETC3
MUS 8 CSUC1 IGETC3

Criteria D: Adequate Resources

15. Library and/or Learning Resource Plan

No additional resources will be required beyond the college's current resources.

16. Facilities and Equipment Plan

No additional resources will be required beyond the college's current resources.

17. Financial Support Plan

The source of financial support for the project will come from our normal apportionment revenue. The new program should not entail any significant increase in apportionment aside from normal growth.

18. Faculty Qualifications and Availability

Existing discipline faculty will teach all of the courses required for the degree. Courses offered in this program will be adequately staffed and managed by faculty in accordance with State Minimum Qualification standards.

Criteria E: Compliance

19. Model Curriculum (if applicable)

20. Licensing or Accreditation Standards

There are no licensing or accreditation standards for this major or emphasis.

21. Student Selection and Fees

No additional student selection criteria are in place, this degree complies with California Code of Regulations, Title 5, sections 55201 and 58106. Additionally, there are no additional fees required beyond those identified in California Education Code section 76300.

Foothill College
Content Review Process and Forms for Prerequisites, Co-requisites and Advisories ("Requisites")

In order to ensure that limitations on enrollment are both appropriate and necessary for student success, Title 5 requires faculty to complete a rigorous content review whenever new prerequisites, co-requisites or advisories are being considered for a course. Rigorous content review of prerequisites, co-requisites or advisories must also be completed during the regular Title 5 compliance review cycle. **It is imperative that discipline faculty work with their college curriculum committee reps during this process**.

Faculty will use one or more of the following three forms, as appropriate. These are:

A. Content Review Addendum for Mathematics Requisites & Advisories – to be completed for each math prerequisite, co-requisite or advisory that is placed on a course in a discipline other than math (e.g. a chemistry class requires a math ~~pre~~requisite);
B. Content Review Addendum for English Requisites & Advisories– to be completed for each English or ESLL prerequisite, co-requisite or advisory that is placed on a course in a discipline other than English/ESLL (e.g. a history class requires an English ~~pre~~requisite); and
C. Content Review Addendum for Requisites & Advisories within a Discipline – to be completed when a prerequisite, co-requisite or advisory is placed on a course in the same discipline (e.g. Bio 40A is a ~~pre~~requisite for Bio 40B)

Use a separate form for each prerequisite, co-requisite or advisory.

Note that if baccalaureate institutions require a particular pre- or co-requisite for articulation, or if the requisite is imposed by statute or regulation, faculty are not required to complete the content review process. Content review is also unnecessary if the course is part of a closely related lecture-lab pairing within a discipline. (E.g. anatomy laboratory course is co-requisite with anatomy lecture course).

For guidance regarding how to identify a course that may need a prerequisite, co-requisite, or advisory, review the document, "How to Identify Courses that May Need Pre- or Co-requisites or Advisories."

FORM A: Content Review Addendum for Mathematics Requisites

Number & Title of Target Course*:

*The "Target Course" is the one that has or will have the requisite

Faculty participants in this content review process:

Considerations to address before you begin content review:

- Do baccalaureate institutions require a particular prerequisite for articulation? If so, attach the documentation from ASSIST to this form, and you're done! You do NOT need to complete content review.
- Is a particular prerequisite required by statute or regulation? If so, attach the documentation to this form, and you're done! You don't need to complete content review.
- Does De Anza College offer an equivalent course?
  a. If so, does their equivalent course have a prerequisite? What is it?
- Is there a C-ID descriptor for the target course? If yes, what's the C-ID number?
- If there is a C-ID descriptor, does it require a pre- or co-requisite? If yes, what is it?

Once you've decided to explore implementing a prerequisite, OR if you're completing content review of an already established prerequisite:
Using the Target Course's COR, identify the mathematical skills and knowledge students must have prior to enrolling in the target course and list them here:

Review course syllabus (from all sections offered in the previous year), and artifacts such as exams, assignments, and grading criteria. Use the following space to document which of these provides explicit evidence that the identified requisite skills are necessary in ALL sections being offered. ***Note** that if you cannot find evidence that the requisite skills are necessary in every section of the course, the prerequisite (or co-req or advisory) cannot be imposed.*

Confer with PSME Curriculum Reps to recommend which math faculty can best help, and contact them to identify whether an entire pre- or co-requisite course is truly needed, or whether there's another viable alternative. (E.g. small unit "booster" courses, designating a short period of class time for math faculty to visit and teach the concepts, etc.) If these are not viable options, explain rationale here:

If no viable alternative exists, consult with the math faculty to identify/validate the most appropriate math prerequisite here:

List the names of the math faculty who collaborated in this effort:

Now that you have identified the appropriate prerequisite:
Contact the Institutional Researcher to gather and analyze data comparing success rates for students who have versus have not completed the identified prerequisite, and document here:

Contact your Division Curriculum Rep to ensure they announce the proposal to implement the math prerequisite at the next CCC meeting, and document the date here:

Recommended Prerequisite/Co-requisite/Advisory (circle one):

Submit this completed form to your Division Curriculum Committee for review and approval

Discipline Faculty Signature:		Date:	
Discipline Faculty Signature:		Date	
Math Faculty Signature:		Date	
Division CC Review & Date of Approval:			
Division CC Rep Signature:		Date	
Articulation Officer Signature: (not required for Advisories)		Date	

Foothill College Course Need/Justification Guide

The "Need/Justification" (N/J) statement might just be the most important part of your Course Outline of Record. **Whether you're getting ready to write a brand new course or sitting down to do your regular cyclical compliance review, the Need/Justification is where you should begin**. It's where faculty communicate the big picture practical reason(s) **why we offer the course**. That is, it's an explicit explanation about how the course helps students meet their educational goals and where it fits in our overall curricular offerings. For example:

- Is it part of one of our associate's degrees? If so, is it a core requirement or one of the support course options?
- Is it part of a certificate of achievement?
- Is it intended to serve as part of our general education package?
- Do we offer it because it helps students fulfill their UC/CSU general education requirements?

If you're not sure where your course fits in our overall curriculum, contact your college curriculum committee representative and they will help you.

While there are many other reasons that faculty (and students!) are passionate about their discipline, **the N/J statement isn't the place to write about the virtues and philosophy of your course** - the learning outcomes and objectives are the places to express those ideas. It's also <u>not</u> the place to write, *"this course is transferable,"* as that information is already published with the description of the course.

To help you communicate your course's N/J most efficiently, the Office of Instruction has prepared some wording for you to use:

CREDIT COURSES

<u>Core Courses</u>:

- If required core course for an associate's degree, specify, e.g.:
  - "This course is a required core course for the AS degree in Biology," or
  - "This course is a required core course for the AA degree in English"
- If required core course for an associate's degree <u>and</u> a Certificate of Achievement specify both, e.g.:
  - "This course is a required core course for the AA degree in Photography and the Certificate of Achievement in Photography," or ,"This course is a required core course for the AA degree and the Certificate of Achievement in Photography."
- If required core course for an associate's degree <u>and</u> satisfies a Foothill GE requirement(s), specify both/all, e.g.:
  - "This course is a required core course for the AS degree in Math and satisfies the Foothill GE Requirement for Area V, Communication and Analytical Thinking."

- "This course is a required core course for the AS degree in Sociology and satisfies the Foothill GE Requirement for Area IV, Social and Behavioral Science and Area VII, Lifelong Learning."

❖ If required core course for an associate's degree and a Certificate of Achievement and satisfies a Foothill GE requirement(s), specify all, e.g.:

- "This course is a required core course for the AA degree and the Certificate of Achievement in Photography. It also satisfies the Foothill GE Requirement in Area I, Humanities."

Support (electives) Courses: use the same wording as above for core courses, but replace "required core" with "restricted support" e.g.

- "This course is a restricted support course for the AS degree in Chemistry and satisfies the Foothill GE Requirement for Area V, Communication and Analytical Thinking." or
- "This course is a restricted support course for the AA degree in Art," or
- "This course is a restricted support course for the AA degree in Theatre Technology and the Certificate of Achievement in Theatre Technology. It also satisfies the Foothill GE Requirement in Area I, Humanities."

❖ What if it's a core requirement for one degree and a support course for another? Specify both… you get the picture.

If you know and have had confirmation from the Articulation Officer, you may add a statement explaining that the course helps students satisfy their CSU/UC General Education requirements, e.g.:
"This course also meets the Area 4 requirement for IGETC and Area D-6 of the CSU-GE breadth requirements.

OTHER: BASIC SKILLS, NON-CREDIT & CAREER-TECHNICAL COURSES

Stand Alone Courses: (CTE, Basic Skills, non-credit)

❖ If a course is not part of one of our state-approved associate's degrees, certificates of achievement or a Foothill GE requirement, it is considered to be a "stand alone" course. In this case, the N/J statement is especially important because it allows us to explain how it helps students meet their career goals even though it doesn't help them earn a degree, etc. You should use the N/J statement that you specified on your stand-alone course application. If you're not sure, ask your CCC rep for help. E.g.
  - "This course is part of the Basic Skills pathway in preparation for college level work."
  - "This CTE course is responding to local employers' needs for specialized training."
  - "This course arose from the need to provide new students an overview of the programs and services available at the college and provides an introduction to various concepts like educational planning and goal setting."