Adopted: March 18, 1997

ACADEMIC SENATE
OF
CALIFORNIA POLYTECHNIC STATE UNIVERSITY
San Luis Obispo, California

AS-478-97/gebadhoc
RESOLUTION ON
PROPOSED MODEL OF UNIT DISTRIBUTION FOR
GENERAL EDUCATION AND BREADTH

RESOLVED: That the Academic Senate of Cal Poly approve the attached *"Proposed Model of Unit Distribution for General Education and Breadth";* and, be it further

RESOLVED: That the attached *"Proposed Model of Unit Distribution for General Education and Breadth"* and all approved alternative reports be forwarded to President Baker and Provost Zingg for approval and implementation.

Proposed by the General Education and
Breadth Ad Hoc Committee
January 8, 1997
March 18, 1997

PROPOSED GENERAL EDUCATION AND BREADTH MODEL

The proposed General Education and Breadth model addresses the primary objectives to be accomplished by the faculty and the General Education Committee:

1. create a model to accommodate a 4-unit standard course
2. keep the total required units in the program at 72
3. fulfill the conditions of Executive Order 595
4. encourage flexibility

AREA I: COMMUNICATION		(12 units)
Communication in the English language, to include both oral communication and written communication, and in critical thinking, to include consideration of common fallacies in reasoning	Composition	4
	SPC & Crit Think	4
	Comp & Crit Think	4
AREA II: SCIENCE AND MATHEMATICS		(16 units)
Inquiry into the physical universe and its life forms, with some immediate participation in laboratory activity, and into mathematical concepts and quantitative reasoning and their implications	Math/Stat	4 or 8
	Life Science	4 4
	Physical Science	4 4
	area elective	4
AREA III: ARTS AND HUMANITIES		(16 units)
Study among the arts, literature, philosophy, and foreign languages	Literature	4
	Philosophy	4
	Arts	4
	area elective	4
AREA IV: SOCIAL, POLITICAL, AND ECONOMIC INSTITUTIONS AND HUMAN LIFE DEVELOPMENT		(20 units)
Study dealing with human social, political and economic institutions and their historical backgrounds and global context, and with human behavior as the product of integrated physiological and psychological entities	Am Hist/Pol	4
	Economics	4
	Psyc/Health/etc.	4
	Social Sciences	4
	area elective	4
TECHNOLOGY ELECTIVE		(4 units)
Study of technology and how it influences today's world. Courses must have a math or science prerequisite and should be integrated and sequenced with courses in other areas		4
GEB ELECTIVE		(4 units)
For students majoring in science-based curricula, one additional course in arts and humanities (Area III). For students majoring in non-science based curricula, one additional course in science and mathematics (Area II).		4
	TOTAL	72 units

(1) At least 12 units must be upper division (2) All courses must have a writing component as appropriate (3) Information competency and technology should be an educational outcome of the university curriculum (4) The General Education Committee is to pursue development of interdisciplinary core courses spanning more than one category (5) U.S. Cultural Pluralism is to be infused appropriately throughout the program (6) Double counting courses with major or support requirements is acceptable (7) Global and international issues are to be integrated appropriately into the program, and (8) The model should be implemented flexibly and creatively.

PROPOSED GENERAL EDUCATION AND BREADTH MODEL
for ENGINEERING PROGRAMS

The proposed General Education and Breadth model addresses the primary objectives to be accomplished by the faculty and the General Education Committee:

1. create a model to accommodate a 4-unit standard course
2. keep the total required units in the program at 72
3. fulfill the conditions of Executive Order 595
4. encourage flexibility

AREA I: COMMUNICATION		(12 units)
Communication in the English language, to include both oral communication and written communication, and in critical thinking, to include consideration of common fallacies in reasoning	Composition	4
	SPC & Crit Think	4
	Comp & Crit Think	4
AREA II: SCIENCE AND MATHEMATICS		(28 units)
Inquiry into the physical universe and its life forms, with some immediate participation in laboratory activity, and into mathematical concepts and quantitative reasoning and their implications	Math/Stat	
	Physical Science	
AREA III: ARTS AND HUMANITIES		(16 units)
Study among the arts, literature, philosophy, and foreign languages	Literature	4
	Philosophy	4
	Arts	4
	area elective	4
AREA IV: SOCIAL, POLITICAL, AND ECONOMIC INSTITUTIONS AND HUMAN LIFE DEVELOPMENT		(16 units)
Study dealing with human social, political and economic institutions and their historical backgrounds and global context	Am Hist/Pol	4
	Economics	4
	PsyclHealth/etc.	4
	Social Sciences	4
	TOTAL	72 units

(1) At least 12 units must be upper division (2) All courses must have a writing component as appropriate (3) Information competency and technology should be an educational outcome of the university curriculum (4) The General Education Committee is to pursue development of interdisciplinary core courses spanning more than one category (5) U.S. Cultural Pluralism is to be infused appropriately throughout the program (6) Double counting courses with major or support requirements is acceptable (7) Global and international issues are to be integrated appropriately into the program, and (8) The model should be implemented flexibly and creatively.

ALTERNATIVE REPORT NO.1

The proposed General Education and Breadth model...

AREA I: COMMUNICATION		(12 units)	
Communication in the English language, to include both oral communication and written communication, and in critical thinking, to include consideration of common fallacies in reasoning	Composition	4	
	SPC & Crit Think	4	
	Comp & Crit Think	4	
AREA II: SCIENCE AND MATHEMATICS		(16 units)	
Inquiry into the physical universe and its life forms, with some immediate participation in laboratory activity, and into mathematical concepts and quantitative reasoning and their implications	Math/Stat	4 aF	8
	Life Science	4	4
	Physical Science	4	4
	area elective	4	
AREA III: ARTS AND HUMANITIES		(16 units)	
Study among the arts, literature, philosophy, and foreign languages	Literature	4	
	Philosophy	4	
	Arts	4	
	area elective	4	
AREA IV: SOCIAL, POLITICAL, AND ECONOMIC INSTITUTIONS AND HUMAN LIFE DEVELOPMENT		(20 units)	
Study dealing with human social, political and economic institutions and their historical backgrounds and global context, and with human behavior as the product of integrated physiological and psychological entities	Am Hist/Pol	4	
	Economics	4	
	Psyc/Health/etc.	4	
	Social Sciences	4	
	area elective	4	
TECHNOLOGY ELECTIVE		(4 units)	
Study of technology and how it influences today's world. Courses must have a math or science prerequisite and should be integrated and sequenced with courses in other areas		4	
GEB ELECTIVE		(4 units)	
For students majoring in science-based curricula, one additional course in arts and humanities (Area III). For students majoring in non-science based curricula, one additional course in science and mathematics (Area II).		4	
	TOTAL	72 units	

(1) At least 12 units must be upper division (2) All courses must have a writing component as appropriate (3) Information competency and technology should be an educational outcome of the university curriculum (4) The General Education Committee is to pursue development of interdisciplinary core courses spanning more than one category (5) U.S. Cultural Pluralism is to be infused appropriately throughout the program (6) Double counting courses with major or support requirements is acceptable (7) Global and international issues are to be integrated appropriately into the program, and (8) The model should be implemented flexibly and creatively.

ALTERNATIVE REPORT NO.4

The proposed General Education and Breadth model...

AREA I: COMMUNICATION		(12 units)
Communication in the English language, to include both oral communication and written communication, and in critical thinking, to include consideration of common fallacies in reasoning	Composition	4
	SPC & Crit Think	4
	Comp & Crit Think	4
AREA II: SCIENCE AND MATHEMATICS		(16 units)
Inquiry into the physical universe and its life forms, with some immediate participation in laboratory activity, and into mathematical concepts and quantitative reasoning and their implications	Math/Stat	4 or 8
	Life Science	4 4
	Physical Science	4 4
	area elective	4
AREA III: ARTS AND HUMANITIES		(16 units)
Study among the arts, literature, philosophy, and foreign languages	Literature	4
	Philosophy	4
	Arts	4
	area elective	4
AREA IV: SOCIAL, POLITICAL, AND ECONOMIC INSTITUTIONS AND HUMAN LIFE DEVELOPMENT		(20 units)
Study dealing with human social, political and economic institutions and their historical backgrounds and global context, and with human behavior as the product of integrated physiological and psychological entities	Am HistIPol	4
	Economics	4
	Psyc/Health/etc.	4
	Social Sciences	4
	area elective	4
TECHNOLOGY ELECTIVE		(4 units)
Study of technology and how it influences today's world. ~~Courses must have~~ a ~~math or science prerequisite and should be integrated and sequenced with courses~~ ia ~~other areas~~		4
GEB ELECTIVE		(4 units)
For students majoring in science-based curricula, one additional course in arts and humanities (Area III). For students majoring in non-science based curricula, one additional course in science and mathematics (Area II).		4
	TOTAL	72 units

(1) At least 12 units must be upper division (2) All courses must have a writing component as appropriate (3) Information competency and technology should be an educational outcome of the university curriculum (4) The General Education Committee is to pursue development of interdisciplinary core courses spanning more than one category (5) U.S. Cultural Pluralism is to be infused appropriately throughout the program (6) Double counting courses with major or support requirements is acceptable (7) Global and international issues are to be integrated appropriately into the program, and (8) The model should be implemented flexibly and creatively.

ALTERNATIVE REPORT NO. 13

The proposed General Education and Breadth modeL ..

AREA I: COMMUNICATION		(12 units)
Communication in the English language, to include both oral communication and written communication, and in critical thinking, to include consideration of common fallacies in reasoning	Composition	4
	SPC & Crit Think	4
	Comp & Crit Think	4
AREA II: SCIENCE AND MATHEMATICS		(16 units)
Inquiry into the physical universe and its life forms, with some immediate participation in laboratory activity, and into mathematical concepts and quantitative reasoning and their implications	Math/Stat	4 or 8
	Life Science	4 4
	Physical Science	4 4
	area elective	4
AREA III: ARTS AND HUMANITIES		(16 units)
Study among the arts, literature, philosophy, and foreign languages	Literature	4
	Philosophy	4
	Arts	4
	area elective	4
AREA IV: SOCIAL, POLITICAL, AND ECONOMIC INSTITUTIONS AND HUMAN LIFE DEVELOPMENT		(20 units)
Study dealing with human social, political and economic institutions and their historical backgrounds and global context, and with human behavior as the product of integrated physiological and psychological entities	Am HistiPol	4
	Economics	4
	Psyc/Health/etc.	4
	Social Sciences	4
	area elective	4
TECHNOLOGY ELECTIVE		(4 units)
Study of technology and how it influences today's world. Courses must have a math or science prerequisite and should be integrated and sequenced with courses in other areas		4
GEB ELECTIVE		(4 units)
For students majoring in science-based curricula, one additional course in arts and humanities (Area III) or one additional course in Social, Political, and Economic Institutions and Human Life Development (Area IV). For students majoring in non-science based curricula, one additional course in science and mathematics (Area II)		4
	TOTAL	72 units

(1) At least 12 units must be upper division (2) All courses must have a writing component as appropriate (3) Information competency and technology should be an educational outcome of the university curriculum (4) The General Education Committee is to pursue development of interdisciplinary core courses spanning more than one category (5) U.S. Cultural Pluralism is to be infused appropriately throughout the program (6) Double counting courses with major or support requirements is acceptable (7) Global and international issues are to be integrated appropriately into the program, and (8) The model should be implemented flexibly and creatively.

State of California

CAL POLY

Memorandum

To: Harvey Greenwald, Chair
Academic Senate

Date: April 25, 1997

From: Warren 1. Baker
President

Copies: Paul J. Zingg
Glenn Irvin

Subject: **Academic Senate Resolution on Proposed Model** of Unit **Distribution for General Education and Breadth (AS-478-97/gebadhoc)**

I hereby approve Academic Senate Resolution AS-478-97/gebadhoc on the Proposed Model of Unit Distribution for General Education and Breadth, with one recommendation for revision, as noted in the discussion of Alternative Report No.4, below.

Consistent with the approval of Senate Resolution AS-478-97, I am also approving Alternative Report No.1 which requires eight units in either Math or Statistics. This alternative report reflects an option provided for in the principal resolution. It underscores appropriate balance between depth and breadth in disciplines that provide students with exposure to mathematical concepts and quantitative reasoning and their implications.

With respect to Alternative Report No.4, which would eliminate the requirement of a Math or Science prerequisite in order to fulfill the technology elective, I am not approving this measure. The intention of the initial resolution to require a Math or Science prerequisite for the fulfillment of the technology elective is an appropriate recognition of the connections among disciplines and of the need to build on a solid foundation in order to achieve a deeper understanding of technology issues and approaches. This aspect of the initial resolution is also designed to encourage departments throughout the University to develop interdisciplinary and/or connected courses that combine lower-division study in Math and/or Science with appropriate upper-division courses in a technology area. However, I would like to request that, for the initial resolution's requirement of specific Math or Science prerequisites, the Senate substitute a requirement that students have completed one-half of their Area II requirements before taking a technology elective, and that the Senate also strongly recommend that students complete all of their Area II requirements before taking a technology elective. I believe this change will meet the intent of the original resolution, while permitting appropriate flexibility for students in planning their courses of study.

With regard to Alternative Report No. 13, which would provide students with the option of choosing an additional course from Area IV (Social, Political and Economic Institutions and Human Life Development) to fulfill their GE&B elective, I do not approve this measure. Alternative Report No. 13 jeopardizes the curricular balance of the principal resolution, for that resolution envisioned no area requiring more than 20 units. Alternative Report No. 13, if accepted, would increase to 24 the number of units in Area IV that a student could take, compared to only 16 in each of Areas II and **III.** That kind of imbalance would defeat

one of the principal goals of a strong GE&B program-to provide students with a broad range of disciplinary perspectives and ways of knowing. The initial resolution achieves appropriate balance between structure and choice, which Alternative Report No. 13 could undermine. I am confident that the disciplines and areas of study represented in Area IV will develop attractive courses, perhaps in concert with other disciplines, that will attract students to the four elective units in Area IV.

In combination with the decision to move to a four-unit curricular structure and approval of the GE&B governance model, the Resolution on the GE&B template is a significant achievement of the Senate and the faculty who devoted considerable time and thought to these matters. These actions reflect a clear recognition that a complete education-a university education-is more than mastering specific techniques or technologies, or sharpening various marketable skills and proficiencies. For commitment to doing only the former is to sell our students short; it is to leave them unprepared, unadaptable, for the changes and uncertainties that lay ahead. There can be no more practical an education than one that launches a student on the course of fulfilling his or her human capacities to reason and to imagine freely; and that hones abilities to express the results of one's thinking in speech and in writing with logic, clarity and grace; to understand political and social context; to enjoy an aesthetic awareness of the arts and human behavior and to anticipate and adapt to change. These learning goals and objectives are not the domain of a single discipline or curricular track. That is why we must acquaint our students with different lenses, for none has the only or correct or complete angle of vision. That is why we must have a GE&B program that is coherent, flexible, solid and respected. It should reflect our collective statement about the goals and objectives of a Cal Poly education, foremost of which is the preparation of our graduates for a lifetime of learning.

The template in the principal resolution promises a GE&B program of high quality and distinctiveness. I am pleased to acknowledge the vision and work of our colleagues to this end, and to charge the GE&B Committee and the Provost with the task of developing a program consistent with the principles and structure of the template.