

# College of San Mateo

## Catalog 1978-79

A community college  
Accredited by the Western Association  
of Schools and Colleges

1700 West Hillsdale Boulevard — San Mateo, California 94402 — (415) 574-6161

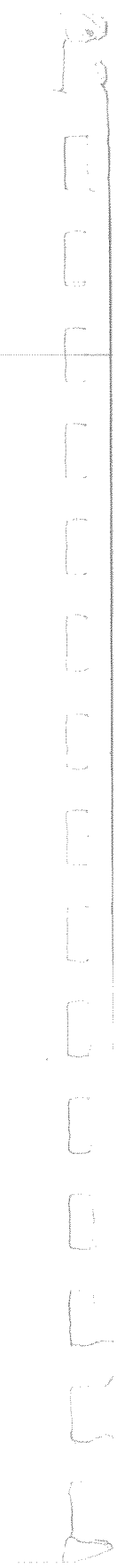
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This year's Catalog features College of San Mateo's outstanding faculty, our most important resource. CSM's longstanding reputation as one of the nation's top community colleges is, in large part, a reflection of the quality of our instructors and their ability to design new courses and programs, introduce more effective teaching strategies, and meet the diverse needs of our changing student population.

I am proud to share some of their accomplishments, which are featured in a series of articles located throughout this book—I only wish that space constraints had not limited the number of profiles we were able to include. I hope you will enjoy reading about their contributions to College of San Mateo's instructional program, and will join me in applauding their commitment to providing the best possible educational experience for community college students.

Lois A. Callahan, Ed.D.  
Dean of Instruction  
May, 1978

*Cover painting by CSM Art Instructor Duane Wakeham  
"Late Summer Evening," oil on canvas, 48"x54"*





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## Table of Contents

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Calendar for the College Year	4
Board of Trustees	5
Administrative Staff	6
Faculty	7
Emeriti	17
General Information	21
Evening and Summer Sessions	33
Admission Requirements—Day Classes	37
Registration—Day Classes	39
Grades and Scholarship	43
Academic Policy	45
Student Responsibilities	49
Student Services	51
Graduation Requirements	61
Program Planning and Suggested Curricula	65
A.A./A.S. Degree and Certificate Career Programs	75
Description of Courses	101
Index	209
Map: Routes to the College Campus	211
Map: Campus Layout	213

## Calendar for 1978-79

### Summer Session 1978

#### Test Dates

See Application for Admission for dates, times and places.

#### Registration

See Schedule of Classes

#### Classes Begin

June 19

#### Independence Day Holiday

July 4

#### Last Day to Petition for Summer AA/AS Degree

July 28

#### Summer Session Six-week Classes Close

July 28

#### Summer Session Eight-week Classes Close

August 11

### Fall Semester 1978

#### Applications Available

April 17

#### Test Dates for Fall Semester

See Application for Admission for dates, times, and places

#### Counseling-Registration by Appointment, New and Returning Students

August 22-30

#### Day and Evening Classes Begin

September 6

#### Last Day to Add Semester-length Classes

September 19

#### Veterans' Day Holiday

November 10 and 11

#### Last Day to Apply for Fall AA/AS Degree or Certificate

November 3

#### Last Day to Drop a Semester-length Class in which a Student is Failing without possible Penalty

November 17

#### Thanksgiving Recess

November 23-25

#### Registration for Continuing Students

December 5-15

#### Winter Recess

December 18-January 1

#### Final Examinations, Evening Classes

January 16-22

#### Final Examinations, Day Classes

January 16-24

#### Inter-Semester Recess

January 25-February 4

### Spring Semester 1979

#### Applications Available

November 6

#### Test Dates for Spring Semester

See Application for Admission for dates, times and places.

#### Counseling-Registration by Appointment, New and Returning Students

January 16-24

#### Day and Evening Classes Begin

February 5

#### Last Day to Add Semester-length New Classes

February 16

#### Lincoln Day Holiday

February 12

#### Washington Day Holiday

February 19

#### Spring Recess

April 9-15

#### Last Day to Apply for AA/AS Degree or Certificate

April 6

#### Last Day to Drop a Semester-length Class in which a Student is Failing without possible Penalty

April 20

#### Test Dates for Fall Semester 1979

See Application for Admission for dates, times and places.

#### Registration for Continuing Students

May 21-25

#### Memorial Day Holiday

May 28

#### Final Exams—Day Classes

June 8-18

#### Final Exams—Evening Classes

June 12-18

#### Commencement

June 14

### Summer Session 1979

#### Test Dates

See Application for Admission for dates, times and places.

#### Registration

See Schedule of Classes

#### Classes Begin

June 25

#### Independence Day Holiday

July 4

#### Last Day to Petition for Summer AA/AS Degree

July 21

#### Summer Session Six-week Classes Close

August 3

#### Summer Session Eight-week Classes Close

August 17

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## Board of Trustees San Mateo County Community College District

*College of San Mateo is part of the San Mateo County Community College District which also operates Canada College in Redwood City and Skyline College in San Bruno. The District and its Colleges are governed by a five-member Board of Trustees elected at large for four year terms by county voters.*

Eleanore D. Nettle, President  
James G. Rudolph, Clerk  
Robert A. Tarver  
James R. Tormey, Jr.  
Carl E. Ward

Glenn P. Smith  
District Chancellor-Superintendent

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# College of San Mateo Administration

**David H. Mertes**  
President

**Gertrude M. Steele**  
Administrative Assistant to the President

## INSTRUCTIONAL SERVICES

**Lois A. Callahan**  
Dean of Instruction

**(Name to be announced)**  
Director of Career and  
Occupational Education

**Michael B. Kimball**  
Director of Continuing Education

**(Name to be announced)**  
Director of Educational  
Broadcasting and Services

## ACADEMIC DIRECTORS

**Leo N. Bardes**  
Director, Fine and Performing Arts

**Michael J. Clemens**  
Director, Social Science

**Clifford G. Giffin**  
Director, Physical Education/Athletics

**Gilbert B. Gossett**  
Director, Mathematics and Science

**Cecilia A. Hopkins**  
Director, Business

**Paul Y. Lin**  
Director, Technology

**Wilson G. Pinney**  
Director, Language Arts

**John C. Williams**  
Director, Health and Service Careers

## STUDENT SERVICES

**Allan R. Brown**  
Dean of Student Services

**Philip D. Morse**  
Director of Special Programs  
and Services

**Herbert R. Warne**  
Director of Admissions  
and Records

**Aline Fountain**  
Director of Counseling Services

**Jackman L. LeBlanc**  
Director of College  
Readiness Program

## COMMUNITY EDUCATION

**(Name to be announced)**  
Director of Community Education

## OPERATIONS

**C. William Friedrichs**  
Director of Operations

**Chester R. Williams**  
Supervisor of Buildings and Grounds

**Lynn Pontacq**  
Supervisor, Fiscal and Personnel  
Services

## College Faculty 1978-79

(Date of original appointment follows name.)

- Acena, Albert A.** (1966)  
History  
B.A., Seattle University  
M.A., Ph.D., University of Washington
- Alexandre, Alvin A.** (1961)  
English, Journalism  
B.A., M.A., New York University
- Alfred, Joseph** (1970)  
Aeronautics  
A.A., College of San Mateo
- Allende, David H.** (1967)  
Art, Counselor  
B.A., M.A., University of Tulsa
- Anderson, Robert D.** (1959)  
Physics  
A.B., University of Calif., Berkeley  
M.S., Purdue University
- Andrews, Edgar H.** (1958)  
History  
A.B., M.A., University of Calif., Berkeley
- Anenson, Marian R.** (1964)  
Nursing  
B.S., R.N., University of Minnesota
- Angerbauer, George** (1963)  
Electronics Technology, Counselor
- Angier, W. Jeanne** (1965)  
English  
B.A., M.A., Washington University, St. Louis
- Appleton, Alanson** (1961)  
Art  
A.B., California College of Arts and Crafts  
M.A., University of Calif., Berkeley
- Arnold, Marlene C.** (1965)  
Nursing  
B.S., R.N., College of St. Scholastica  
M.S., University of Calif., San Francisco
- Atkins, Gregg T.** (1975)  
A.A., College of San Mateo  
B.A., M.L.S., University of California, Berkeley
- Baker, Mary J.** (1967)  
Biology, Counselor  
B.A., University of Calif., Berkeley  
M.A., San Francisco State University
- Balsley, Raymond I.** (1946)  
Physical Education  
A.B., University of Calif., Berkeley  
A.M., Stanford University
- Bardes, Leo N.** (1965)  
Director, Fine Arts Division  
B.A., M.A., San Francisco State University
- Beale, Paul L.** (1963)  
Business  
B.S., M.B.A., Stanford University
- Beaty, Donald E.** (1967)  
Physics  
B.A., M.A., Whittier College  
M.A., Colorado College
- Bell, James K.** (1963)  
English  
B.A., University of Calif., Santa Barbara  
M.A., University of Calif., Berkeley
- Berensmeier, Barbara Jean** (1956)  
Physical Education  
A.B., San Francisco State University
- Berglund, John L.** (1965)  
Aeronautics  
B.V.E., M.A., San Francisco State University
- Bernasque, Jean A.** (1973)  
Dental Assisting  
A.A., College of San Mateo
- Berry, Daniel A.** (1958)  
Business Administration, Counselor  
B.S., Armstrong College  
A.B., M.A., University of Calif., Berkeley
- Berry, Fredrick J.** (1968)  
Music  
B.M., M.M., Southern Illinois University
- Beuttler, Rose Marie P.** (1965)  
French, Women's Re-entry Program  
B.A., University of Calif., Berkeley  
A.M., Stanford University
- Bierce, Ralph H.** (1964)  
English  
A.B., M.A., University of Calif., Berkeley
- Billeter, William J.** (1961)  
Business Administration, Data Processing  
B.S., Golden Gate University  
M.A., San Francisco State University  
Ed.D., Nova University
- Blitz, George A.** (1974)  
Horticulture Counselor  
A.B., M.A., University of Calif., Berkeley
- Blust, Dale W.** (1965)  
Aeronautics, Counselor

**Blust, Kenneth E.** (1966)  
Aeronautics  
A.A., Everett Junior College, Wash.

**Bogan, Harold S.** (1974)  
Security  
A.A., College of San Mateo

**Bramlett, George E.** (1969)  
Electronics Technology  
B.A., Calif. State Univ., Fresno  
M.A., San Jose State University

**Brauns, Robert A.** (1954)  
Play Production  
A.B., Stanford University

**Brennan, Moira Ann** (1977)  
Nursing  
R.N., St. Mary's School of Nursing  
Tucson, Arizona  
B.S., University of Nevada, Reno  
M.S., University of California,  
San Francisco

**Brown, Allan R.** (1959)  
Dean of Student Services  
A.B., A.M., Stanford University  
Ph.D., Stanford University

**Brown, Francesca** (1965)  
English  
A.B., M.A., University of Calif.,  
Berkeley

**Brown, Kathryn** (1977)  
Learning Skills  
A.A., College of San Mateo  
B.A., San Francisco State University  
M.S., San Diego State University

**Brusin, Michael J.** (1964)  
History, Economics  
B.A., M.A., San Jose State University

**Bucher, Michael C.** (1969)  
Biology  
B.A., M.A., University of  
California, Los Angeles

**Burdash, Elizabeth A.** (1965)  
Psychology  
B.A., Boston University  
M.S., Mass. Institute of Technology

**Burke, Michael C.** (1976)  
Mathematics  
B.A., University of Calif.,  
Santa Barbara  
M.A., Stanford University  
(Education)  
M.A., University of Oregon  
(Mathematics)

**Burton, Kathleen M.** (1968)  
Business  
B.S., University of Wyoming  
M.A., San Jose State University

**Burton, Virginia** (1950)  
Physical Education  
A.B., MacMurray College  
A.M., Teachers College, Columbia  
University

**Cadol, Raymonde M.** (1961)  
French  
B.S., Utah State University  
M.A., University of Calif., Berkeley

**Cafferata, John** (1968)  
English  
B.A., M.A., San Francisco State  
University

**Callahan, Lois A.** (1967)  
Dean of Instruction  
B.S., Southwest Missouri State  
University  
M.A., California State University,  
Chico  
Ed.D., University of Southern  
California

**Cameron, D. Bruce** (1968)  
English  
A.A., Santa Rosa Junior College  
B.A., Hunter College  
M.A., Columbia University

**Camps, Albert** (1967)  
Electronics Technology  
A.A., City College of San Francisco

**Carter, Stuart R.** (1964)  
Physical Education  
A.B., M.A., San Jose State University

**Cassidy, Claudia L.** (1974)  
Counselor  
B.A., University of Calif., Berkeley  
M.A., San Francisco State University  
Ph.D., University of Calif., Berkeley

**Casstevens, Jewell** (1963)  
Cosmetology  
A.A., College of San Mateo

**Castillo, Richard P.** (1969)  
Spanish  
B.A., University of Calif., Berkeley  
M.A., Middlebury College, Vermont

**Cate, Donald F.** (1964)  
Political Science  
B.A., Pacific University  
M.A., Oregon State University  
Ph.D., Stanford University

**Chaw, Gladys** (1973)  
Librarian  
A.A., City College of San Francisco  
B.A., Calif. State Univ., Sacramento  
M.L.S., University of California  
Berkeley

**Chowenhill, Dean F.** (1967)  
Drafting Technology, Counselor  
A.A., Los Angeles Harbor College  
B.A., M.A., San Jose State University

**Chriss, Michael** (1966)  
Astronomy, Counselor  
B.S., M.S., University of Arizona

**Chroman, Peter** (1969)  
Sociology, Anthropology  
A.B., University of Illinois  
M.A., San Francisco State University

**Clemens, Michael J.** (1967)  
Director, Social Science Division  
A.B., M.A., Columbia University

**Clemens, Roger W. C.** (1967)  
Life Science  
B.S., M.S., University of Calif.,  
Berkeley

- Clinkscapes, J. Kyle** (1957)  
Chemistry, Counselor  
B.S., University of Calif., Berkeley  
M.S., University of Pacific  
M.A., San Jose State University  
(Education, Counseling)
- Cohn, Adrian A.** (1963)  
English  
B.S., M.S., Ph.D., University of Wisconsin
- Cons, Jean M.** (1976)  
Biology  
A.A., Oakland Community College  
B.A., San Francisco State University  
M.A., Ph.D., University of California, San Francisco
- Cooke, Stuart T.** (1964)  
History  
A.B., Lafayette College  
M.A., University of Pennsylvania
- Cooper, Barton C.** (1965)  
Philosophy  
B.A., Ph.D., University of Calif., Berkeley
- Cordes, Henry M.** (1964)  
German  
B.A., M.A., State University of New York, Buffalo  
Ph.D., Stanford University
- Coulson, Robert N.** (1965)  
Machine Tool Technology  
A.B., M.A., San Francisco State University
- Coyne, Robert J.** (1963)  
Art, Photography  
B.A., M.A., San Francisco State University
- Crawford, Douglas B.** (1960)  
Mathematics, Counselor  
A.B., A.M., Stanford University
- Crawford, Zelte** (1969)  
Ethnic Studies  
B.S., M.A., Western Michigan University
- Crest, Richard L.** (1958)  
Music  
B.A., San Jose State University
- Cron, John A.** (1968)  
Business  
A.B., M.A., San Francisco State University
- Crouch, Dorothy J.** (1968)  
Biology  
A.B., University of Calif., Berkeley  
M.A., Ph.D., Stanford University
- Curren, Terence B.** (1962)  
Zoology, Physical Anthropology  
B.A., University of Calif., Berkeley  
M.A., San Francisco State University
- Daniels, Jack** (1946)  
Art, Counselor  
A.B., San Jose State University  
A.M., Stanford University
- Davis, Gregory** (1966)  
Political Science  
A.B., A.M., Stanford University
- De Freitas, Louis** (1966)  
Welding Technology  
B.V.E., M.A., San Francisco State University
- De Gregorio, Michael L.** (1957)  
Chemistry, Physics  
A.B., A.M., San Francisco State University
- Dehnel, George S.** (1962)  
Biology, Botany  
B.A., San Diego State University  
Ph.D., University of Calif., Berkeley
- Denison, Frank G.** (1964)  
Mathematics  
S.B., Mass. Institute of Technology  
M.S., A.E., California Institute of Technology
- Denney, Clifford O.** (1975)  
Chemistry  
B.S., Portland State University  
M.Ed., M.S., Ph.D., Oregon State University
- Devonshire, Charles M.** (1958)  
Psychology, Psychological Services  
B.S., M.A., University of Texas
- Dickey, William J.** (1975)  
Physical Education, Football Coach  
B.S., Utah State
- Dittes, Marilyn D.** (1974)  
Nursing  
B.S., San Francisco State University
- Donner, Richard C.** (1963)  
Physical Education  
B.A., M.A., San Jose State University
- Dooley, John B.** (1963)  
Librarian  
B.A., M.A., B.L.S., University of Calif. Berkeley
- Duncan, David L.** (1974)  
Technical Art/Graphics  
A.A., College of San Mateo  
B.A., M.A., San Jose State University
- Edmundson, James S.** (1964)  
French  
B.A., University of Washington  
B.S., Georgetown University  
M.A., University of Washington  
Ph.D., Columbia University
- Fark, Roland H.** (1969)  
Biology, Counselor  
B.S., M.A., Bowling Green State University
- Faure, Emile L.** (1970)  
Mathematics  
B.A., San Diego State University  
M.A., Claremont Graduate School
- Fellows, Ward J.** (1966)  
Philosophy  
A.B., Cornell University  
B.D., S.T.M., Union Theological Seminary  
M.A., University of Calif., Berkeley
- Fine, Albert K.** (1957)  
Technical Drafting  
A.B., University of Calif., Santa Barbara  
A.M., Ed.D., Stanford University

**Fisher, Anita** (1969)

Psychology  
B.A., University of Southern Calif.  
Ph.D., Stanford University

**Fitzgerald, Maurice J.** (1964)

English  
B.S., University of San Francisco  
A.M., Stanford University

**Fountain, Aline** (1965)

Director of Counseling Services  
B.S., Florida State University  
M.A., San Francisco State University  
(Education)  
M.A., San Francisco State University  
(Counseling and Psychology)

**Foye, James F.** (1971)

Aeronautics  
A.A., Sacramento City College  
B.V.E., San Francisco State University

**Fraker, Wilson P.** (1968)

Business  
A.B., Harvard  
M.B.A., University of Calif., Berkeley

**Frassetti, Gerald J.** (1967)

English, Foreign Student Advisor  
B.A., St. Mary's College  
M.A., San Francisco State University

**Galindo, Donald V.** (1956)

Art  
A.B., University of Calif., Berkeley  
B.A.E., M.F.A., California College of  
Arts and Crafts

**Gattmann, Eric** (1964)

Education, Counselor  
A.B., University of Calif., Berkeley  
M.A., San Francisco State University

**George, Thomas W.** (1966)

Business  
B.A., M.A., Texas Technological  
College  
Ph.D., University of Washington

**Gibson, Ellen Ross** (1970)

Photography, Art  
B.F.A., Virginia Commonwealth  
University  
M.A., San Francisco State University

**Giffin, Clifford G.** (1958)

Director, Physical Education/Athletics  
Division  
B.S., M.S., University of Oregon

**Gill, John M.** (1969)

English  
B.A., M.A., University of Washington  
Ph.D., New York University

**Glen, William** (1957)

Geology, Paleontology, Counselor  
B.S., Brooklyn College  
M.A., University of Calif., Berkeley

**Goehler, John H.** (1970)

Political Science  
A.A., College of San Mateo  
B.A., M.A., San Francisco State  
University

**Gossett, Gilbert B.** (1955)

Director, Math/Science Division  
B.A., M.A., University of Pacific

**Goth, Gilbert B.** (1975)

Chemistry  
B.A., Columbia College  
Ph.D., University of Calif., Berkeley

**Graham, Alexander** (1966)

Horticulture  
Scottish Diploma Horticulture, West  
Scotland, College of Agriculture  
Diploma Horticulture, Royal Botanic  
Garden, Edinburgh, Scotland  
National Diploma Horticulture, Royal  
Horticulture Society

**Griffin, Irene F.** (1964)

Drama  
A.B., Barnard College  
A.M., Stanford University

**Gum, H. Sanford** (1963)

Drafting, Coop Ed., Counselor  
B.A., San Jose State University  
A.M., Stanford University  
Ed.D., Oregon State University

**Gustavson, Charles F.** (1966)

Music  
A.B., M.A., San Francisco State  
University

**Hagerty, Joe C.** (1977)

Coordinator of Nursing Programs  
B.S., M.A., University of California,  
San Francisco

**Halualani, Jennie** (1963)

Nursing  
R.N., St. Francis Hospital School of  
Nursing, Hawaii  
B.S.N.E., St. Mary's College, Kansas  
M.S., Univ. of Calif., San Francisco

**Hancock, John C.** (1965)

Music  
A.B., San Francisco State University  
M.A., San Jose State University

**Hanigan, Jane E.** (1958)

English, Women's Re-entry Program  
A.B., University of Calif., Berkeley  
M.A., San Francisco State University

**Hansen, Merrill C.** (1957)

Speech  
B.A., University of Utah  
A.M., Ph.D., Stanford University

**Harriman, William** (1963)

English  
B.A., M.A., J.D., University of Calif.  
Berkeley

**Harrington, Joyce M.** (1969)

Nursing  
R.N., Providence School of Nursing  
B.S.N.E., Seattle University  
M.S.N., Univ. of Calif.,  
San Francisco

**Harris, Edward M.** (1968)

Mathematics  
B.S., University of Colorado  
M.A., San Francisco State University

**Harris, Richard V.** (1965)

Physical Education  
A.B., M.A., Humboldt State College

**Harrison, Kenneth W.** (1969)

Music  
B.M., University of Southern Calif.  
M.A., San Francisco State University



- Hazelton, Louise B.** (1960)  
History, English  
B.A., University of Calif.,  
Los Angeles  
M.A., Calif. State Univ., Fresno
- Heitz, Carol Rhodabarger** (1964)  
Guidance, Counselor  
A.B., University of Calif.,  
Santa Barbara  
M.A., San Francisco State University
- Henderson, Frances C.** (1967)  
Nursing  
B.S., R.N., Dillard University  
M.S., University of Calif., San  
Francisco
- Herman, Mary M.** (1978)  
Speech Pathologist  
B.A., M.A., San Francisco State Univ.
- Heyeck, Robin R.** (1965)  
English  
A.B., A.M., Stanford University
- Hills, Dorothy** (1968)  
Early Childhood Education  
B.S., University of Oregon  
M.A., San Francisco State University
- Holmes, Paul C.** (1964)  
English  
B.A., University of Calif., Berkeley  
M.A., San Francisco State University
- Holmgren, Roy H.** (1957)  
Mathematics  
A.B., M.A., University of Calif.,  
Berkeley
- Hopkins, Cecilia Ann** (1958)  
Director, Business Division  
B.S., Montana State College  
M.A., San Francisco State University  
(Business Education)  
M.A., San Francisco State University  
(Counseling and Administration)  
Ph.D., Calif. Western University
- Howe, Robert S.** (1965)  
Guidance, Counselor  
A.B., San Jose State University  
A.M., Stanford University
- Hudson, Angela S.** (1964)  
Physical Education, Dance  
B.A., Miami University  
M.A., San Francisco State University
- Hudson, Herbert H.** (1947)  
Physical Education, Counselor  
A.B., San Jose State University  
A.M., Stanford University
- Hynding, Alan A.** (1967)  
History  
B.S., University of Oregon  
M.A., Stanford University  
Ph.D., University of Washington
- Ingraham, Joeann** (1962)  
Physical Education  
A.B., San Jose State University
- Innis, James E.** (1967)  
Health Science  
A.B., M.A., University of Northern  
Colorado
- Ireson, Mamie G.** (1963)  
Consumer Arts & Sciences,  
Counselor  
B.S., Mary Washington State University  
M.S., Virginia Polytechnic Institute-  
State University
- Jackson, James L.** (1959)  
Mathematics  
B.A., Beloit College  
M.A., University of Calif., Berkeley
- Jacques, James J.** (1969)  
Physical Education  
B.A., M.A., San Jose State University
- Jaffy, Florence I.** (1958)  
Economics  
A.B., Pennsylvania State College  
M.A., University of Chicago
- Janssen, William A.** (1965)  
Business  
A.B., M.A., San Jose State University
- Jeffers, Mary L.** (1963)  
Political Science  
A.B., M.A., Tennessee State Univ.
- Jorgenson, Wallace** (1969)  
Aeronautics  
B.V.E., San Francisco State University
- Joslin, Rex J.** (1964)  
Biology  
B.S., Wisconsin State College  
M.S., University of Illinois
- Karl, John E., Jr.** (1962)  
Anatomy, Physiology  
B.A., Allegheny College  
M.S., University of Kentucky  
Ph.D., Louisiana State University
- Kaufmann, Walter M.** (1966)  
Sociology, Psychology  
BA., University of Calif., Berkeley  
M.A., San Francisco State University  
J.D., University of Calif., Berkeley
- Kellejian, Robert** (1962)  
Electronics Technology  
A.B., M.A., San Francisco State  
University
- Keller, Robert M.** (1958)  
Chemistry  
A.B., M.A., San Jose State University
- Kennedy, Vance A.** (1976)  
Business  
A.A., San Jose City College  
B.S., M.B.A., San Jose State University
- Kennelly, Maureen E.** (1970)  
Nursing  
R.N., Poplar Hospital, London  
B.S.N., DePaul University  
M.P.H., University of Michigan
- Keys, Noel W.** (1966)  
Psychology, Psychological Services  
B.S., Denison University  
M.A., Duke University  
Ph.D., University of North Carolina
- Kimball, Michael B.** (1968)  
Director, Continuing Education  
B.A., Stanford University  
M.A., San Francisco State University
- Lamont, Stephen S.** (1974)  
Aeronautics  
B.A., University of Calif., Berkeley

- Landmann, Eva M.** (1975)  
Nursing  
R.N., Central Middlesex Hosp., London  
B.S.N., University of Alberta  
M.S.N., San Jose State University
- Lapp, Rudolph M.** (1955)  
History  
A.B., Roosevelt University  
M.A., Ph.D., University of Calif., Berkeley
- Leach, Walter J., Jr.** (1956)  
Psychology, Sociology  
B.A., University of Calif., Los Angeles  
M.A., University of Calif., Santa Barbara
- Le Blanc, Jackman L.** (1974)  
Director, College Readiness Program  
B.A., United States International University  
M.Ed., University of Calif., Santa Barbara
- Lee, Priscilla T.** (1967)  
Anthropology  
A.B., A.M., Ph.D., Stanford University
- Le Gallais, D. Richmond** (1955)  
Chemistry  
B.S.A., M.S.A., University of British Columbia  
Ph.D., University of Calif., Berkeley
- Lehman, Anita J.** (1963)  
English  
B.A., M.A., University of Calif., Los Angeles
- Leroi, Frank B.** (1968)  
Economics  
B.A., University of Calif., Los Angeles  
M.A., San Jose State University
- Lin, Paul Y.** (1973)  
Director, Technology Division  
B.S.E.E., University of Calif., Berkeley  
M.S.E.E., University of Calif., Berkeley
- Linder, Doris H.** (1967)  
History  
B.A., M.A., Stanford University  
Ph.D., University of Minnesota
- Lokken, Arlys K.** (1963)  
Nursing  
R.N., University of North Dakota School of Nursing  
B.S., University of North Dakota  
M.S., University of Calif., San Francisco
- Lorenzato, Raymond** (1965)  
Art  
B.A., Humboldt State University  
M.F.A., Calif. College of Arts and Crafts
- MacDonald, Lorne** (1968)  
Electronics Technology  
B.S., Pacific State University
- Mahood, Marcia** (1960)  
Business, Counselor  
B.A., M.A., Michigan State University  
M.S., Calif. State Univ., Hayward
- Mantabe, Musonda D.** (1969)  
History, Counselor  
B.A., Syracuse University  
M.A., Lone Mountain College
- Marshall, R. Galen** (1964)  
Music, Counselor  
A.B., M.A., San Francisco State University
- Martin, Chauncey J.** (1967)  
Machine Tools, Welding Technology, Counselor
- Martinez, Thomas A.** (1976)  
Physical Education/Athletics  
B.A., San Francisco State University  
M.A., Azusa Pacific College, California
- Mathers, Jeannette J.** (1955)  
Speech, English  
A.B., San Francisco State University  
A.M., Stanford University
- McClure, Clois A.** (1963)  
Technical Drafting, Counselor  
A.B., Calif. State Univ., Fresno  
M.A., San Francisco State University  
Ed.D., Utah State University
- McCue, Mary J.** (1955)  
English  
B.A., Marygrove College  
M.A., University of Michigan
- McDonough, Joseph M.** (1966)  
Psychology  
A.B., Princeton University  
M.S., University of Miami  
Ph.D., Michigan State University
- McMillin, Virginia A.** (1963)  
Nursing  
R.N., St. Elizabeth's Hospital, Ohio  
B.S., M.S., University of Dayton, Ohio
- Mellor, Sandra L.** (1974)  
Business  
B.A., M.A., San Jose State University
- Mendenhall, Valdemer A., Jr.** (1967)  
Aeronautics  
A.A., College of San Mateo
- Mertes, David H.** (1965)  
President  
B.A., San Francisco State University  
M.A., Ph.D., University of Calif., Berkeley
- Michael, Robert E.** (1965)  
Business Administration  
B.S., M.S., San Jose State University  
B.F.T., American Institute of Foreign Trade
- Miller, William H.** (1961)  
History  
A.B., College of Wooster  
M.A., Ph.D., University of Calif., Berkeley
- Monroe, Howard C.** (1961)  
Ecology, Marine Biology  
B.S., University of Toledo  
M.A., University of Calif., Los Angeles
- Montgomery, Douglas B.** (1963)  
Telecommunications  
B.S., M.A., San Diego State University

- Morehouse, Steven N.** (1977)  
Coordinator of Veterans Affairs  
A.A., College of San Mateo  
B.A., San Francisco State University  
M.S., Calif. State Univ., Hayward
- Morse, Philip D.** (1940)  
Director, Special Services  
A.B., Occidental College  
M.A., University of Calif., Berkeley
- Mullaney, Ellentine M.** (1964)  
English  
B.A., University of Washington  
M.A., San Francisco State University
- Mullen, Edward C.** (1955)  
English  
A.B., M.A., San Jose State University
- Multhaupt, Ernest L.** (1964)  
Engineering, Counselor  
B.S., M.S., University of North  
Dakota
- Murashige, Kate H.** (1968)  
Chemistry  
B.A., Washington University  
Ph.D., University of Calif.,  
Los Angeles  
J.D., Univ. of Santa Clara
- Musgrave, Diane W.** (1970)  
German  
A.B., M.A., Stanford University
- Nakagawa, Libby T.** (1973)  
Counselor  
B.A., M.S., San Francisco State  
University
- Noce, John L.** (1961)  
Physical Education  
A.B., University of Pacific  
M.A., San Francisco State University
- Norman, Colette J.** (1974)  
Librarian  
B.A., Southern Univ., Baton Rouge  
M.A., San Jose State University
- Odum, Daniel C.** (1964)  
Telecommunications, Counselor  
A.B., San Diego State University
- Olson, Robert A.** (1956)  
Speech  
B.S., Wisconsin State College  
M.A., San Jose State University
- O'Mahony, Rosalie M.** (1965)  
Mathematics  
B.S., Loyola University  
M.S., University of Notre Dame  
Ph.D., Univ. of Southern Calif.
- Orozco, Adrian** (1969)  
Counselor  
S.T.B., St. Alexis College, Rome, Italy  
M.Ed., Loyola University, Chicago
- Owen, William H.** (1963)  
Machine Tool Technology  
A.B., M.A., San Francisco  
State University
- Owens, Peter H.** (1971)  
Chemistry  
B.S., Massachusetts Institute of  
Technology  
M.S., Oregon State University  
Ph.D., University of Calif., Berkeley
- Peña, June W.** (1969)  
Nursing  
R.N., Good Samaritan School of  
Nursing  
A.B., San Francisco State University  
M.S., University of Calif., San  
Francisco
- Petit, Susan Y.** (1968)  
English  
B.A., Knox College  
M.A., Purdue University
- Petromilli, James** (1973)  
Electronics  
A.A., College of San Mateo  
B.A., San Francisco State University
- Pex, Betty C.** (1960)  
English  
Ph.B., A.M., University of Chicago
- Pflug, Raymond J.** (1956)  
English  
A.B., A.M., Stanford University
- Phipps, Richard S.** (1962)  
Political Science, Guidance  
Counselor  
A.B., M.A., University of Calif.,  
Berkeley
- Pinney, Wilson G.** (1961)  
Director, Language Arts Division  
A.B., Trinity College  
Ed.M., Harvard University
- Piserchio, Rosemary** (1973)  
Business, Counselor  
B.A., M.A., San Francisco State  
University
- Polansky, Stephen H.** (1968)  
Political Science  
B.A., Princeton University  
J.D., Harvard Law School
- Porter, Donald T.** (1963)  
Philosophy  
B.S., M.A., University of Calif.,  
Berkeley
- Pounds, Robert D.** (1970)  
Physical Education  
B.S., University of Calif.,  
Los Angeles
- Price, Dolores** (1967)  
Physical Education  
B.S., M.Ed., Oregon State University
- Price, Joe A.** (1970)  
Art  
B.S., Northwestern University  
M.A., Stanford University
- Prindle, Philip G.** (1958)  
Speech, Telecommunications  
B.A., Concordia College, Minnesota  
M.A., Washington State University  
Ph.D., Stanford University
- Pumphrey, Jean** (1967)  
English  
B.A., Denison University  
M.A., San Francisco State University
- Ramsey, Caroline Ogletree** (1974)  
Guidance, Counselor  
B.A., M.S., San Francisco State  
University

**Rankin, Theodore L.** (1971)  
Administration of Justice  
B.S., University of Southern  
California  
M.P.A., Golden Gate University

**Rascon, Vincent P.** (1963)  
Art  
B.A., University of Texas  
M.F.A., Los Angeles County Art  
Institute

**Rategan, Edward H.** (1968)  
Data Processing  
B.A., J.D., Marquette University

**Rawlings, Betty R.** (1973)  
Cosmetology

**Richmond, Kern** (1955)  
Political Science, Counselor  
A.B., M.A., University of Calif.,  
Berkeley

**Roach, T. James** (1970)  
Sociology, Psychology  
B.A., M.A., San Francisco State  
University

**Rock, Jo Ann C.** (1964)  
Cooperative Education, Counselor,  
Physical Education  
B.S., Pacific University  
M.A., San Francisco State University

**Rohrbacher, Richard W.** (1968)  
Drama  
A.B., University of the Pacific  
M.A., Washington State University

**Rolph, Samuel S.** (1947)  
Play Production  
A.B., University of Calif.,  
Los Angeles

**Rose, Jacquelyn** (1977)  
Handicapped Students Enabler  
A.A., College of San Mateo  
B.A., San Francisco State University

**Ross, Hugh** (1961)  
History  
B.A., M.A., University of Virginia  
Ph.D., Stanford University

**Rubler, Selma** (1964)  
Nursing  
R.N., Beth Israel Hospital  
B.S., M.S., University of Calif.,  
San Francisco

**Rundberg, William B.** (1967)  
Mathematics  
B.A., San Jose State University  
M.A., Bowdoin College

**Rush, Robert D.** (1969)  
Physical Education  
B.A., M.A., San Jose State University

**Sachen, George** (1967)  
Aeronautics  
B.V.E., B.A., San Francisco State  
University

**Sandler, Marie H.** (1974)  
Early Childhood Education  
B.S., M.S., Florida State University

**Sausjord, Rosa I.** (1963)  
Spanish  
M.A., Smith College  
Ph.D., State University of Iowa

**Savidge, David** (1955)  
English  
A.B., DePauw University  
M.A., University of Calif., Berkeley

**Saxton, Lloyd O.** (1955)  
Psychology  
A.B., University of Calif., Berkeley  
M.A., San Francisco State University  
Ph.D., University of Pacific

**Schoenky, Mary A.** (1963)  
Nursing  
R.N., College of Saint Scholastica  
B.S., University of Minnesota  
M.N., University of Washington

**Schoenstein, Edward G.** (1967)  
Technical Art/Graphics  
B.A., M.A., Calif. State Univ., Chico

**Schwartz, Edwin A.** (1957)  
Psychology  
B.A., New York University  
M.A., New Mexico Highlands Univ.

**Scott, Stanley R.** (1964)  
Technical Drafting  
B.S., Iowa State College  
M.A., San Jose State University

**Searle, John B.** (1973)  
Chemistry  
B.S., Ph.D., Bristol University

**Shapiro, Robert L.** (1963)  
Electronics Technology  
A.B., University of Michigan  
M.A., University of Calif.,  
Los Angeles  
Ed.D., Utah State University

**Silva, Caroline R.** (1962)  
Physical Education  
A.B., M.A., San Francisco State  
University

**Singh, Balbir** (1964)  
Mathematics  
B.S., St. John's College, Agra  
University, India  
A.M., Stanford University  
Ph.D., University of Southern  
California

**Smith, Win** (1973)  
Coordinator, Instructional Services  
B.A., M.A., University of Calif.,  
Los Angeles

**Smith, Robert W.** (1965)  
Mathematics, Engineering,  
Architecture  
B.C.E., Clarkson College of  
Technology  
M.E., University of Calif., Berkeley

**Sonner, Grace Y.** (1970)  
Home Economics  
B.A., San Jose State University  
M.S., Texas Woman's University

**Speer, Lee W.** (1965)  
English  
B.S., University of Scranton  
M.A., San Francisco State University

**Stack, Dennis M.** (1968)  
Technical Drafting  
B.S., Calif. State Polytechnic College  
M.A., San Jose State University

- Statler, Richard G.** (1972)  
Physical Education, Health Education  
B.S., M.S., Calif. State Univ.,  
Hayward
- Steele, Gertrude M.** (1953)  
Administrative Assistant to the  
President  
B.A., College of Notre Dame  
M.A., San Francisco State University
- Stewart, Lawrence W.** (1968)  
English  
B.A., University of Utah  
M.A., San Francisco State University
- Stock, Nancy J.** (1974)  
Cosmetology  
A.A., Santa Monica City College
- Stoker, Russell M.** (1965)  
Psychology  
B.A., M.A., San Jose State University
- Stringari, Lawrence T.** (1969)  
Psychological Services  
B.A., M.A., San Francisco State  
University
- Sullivan, Daniel J.** (1969)  
Business  
A.B., Xavier University  
M.A., DePaul University  
M.B.A., University of Santa Clara
- Tarleton, Leah** (1977)  
School Nurse  
B.S., University of Iowa
- Tippey, James** (1969)  
Music  
B.M., M.M., Indiana University
- Tracy, Allen** (1946)  
Chemistry  
B.A., San Jose State University
- Trouse, Ronald R.** (1963)  
English  
B.A., University of Calif., Berkeley  
M.A., San Francisco State University
- Trugman, Ronald F.** (1973)  
Instructional Development  
B.A., Calif. State Univ.,  
Long Beach  
M.S., M.S.Ed., Ph.D., University of  
Southern California
- Turner, John** (1968)  
English  
B.A., University of Calif., Berkeley
- Upshaw, Debbie** (1975)  
Counselor, CRP  
B.S., Central State University  
M.Ed., University of Cincinnati
- Wagner, Carl A.** (1964)  
History, Political Science  
Permanent Resident (Immigrant)  
Student Advisor  
A.B., Roosevelt University  
M.A., University of Illinois
- Wakeham, Duane A.** (1965)  
Art  
B.A., Michigan State University  
A.M., Stanford University
- Wallace, George E.** (1954)  
Mathematics  
A.A., College of San Mateo  
B.S., A.M., Stanford University
- Walsh, John D.** (1974)  
Administration of Justice  
B.S., University of San Francisco
- Walters, Bruce E.** (1966)  
Aeronautics  
B.S., Oklahoma State University
- Wang, Peter C.** (1975)  
Electronics  
B.S.E.E., Nat. Taiwan University  
M.S.E.E., University of Missouri  
Ph.D., University of Pennsylvania
- Warne, Herbert R.** (1955)  
Director of Admissions and  
Records  
A.B., M.A., University of  
Pacific
- Weaver, Barlow A.** (1968)  
Librarian  
B.A., University of Texas  
M.S. in L.S., Columbia University
- Weintraub, Alan L.** (1962)  
Geography  
B.S., De Paul University, Ill.  
M.S., University of Chicago  
Ph.D., Michigan State University
- West, David** (1973)  
B.A., San Francisco State Univ.  
M.S.W., University of Calif.,  
Berkeley  
M.A., Ph.D., Stanford University
- Whifler, William A.** (1966)  
Architecture  
B.A., Stanford University  
A.I.A.
- White, David D.** (1948)  
English  
A.B., M.A., University of Calif.,  
Berkeley
- Williams, John C.** (1963)  
Director, Health & Service  
Careers Division  
A.B., M.A., San Francisco State  
University
- Williams, Myrtle T.** (1960)  
Cosmetology
- Williamson, Richard A.** (1963)  
English  
B.A., M.A., San Francisco State  
University
- Williamson, Stuart** (1965)  
Biology  
A.B., Harvard University  
M.A., San Francisco State University
- Willis, Janice M.** (1977)  
B.S., Penn State, Pennsylvania  
M.A., San Francisco University
- Witt, Irving M.** (1963)  
Sociology  
B.A., University of Calif., Berkeley  
M.A., University of Chicago  
Ph.D., University of Calif., Berkeley

**Wittwer, Betty J.** (1965)  
Business, Counselor  
B.A., M.A., San Jose State University

**Witzel, Elizabeth L.** (1966)  
Dental Assisting  
A.A., City College of San Francisco  
B.A., San Francisco State University

**Woods, Bernard F.** (1948)  
Business Administration  
A.B., San Jose State University  
A.M., Stanford University

**Woolery, Jeanne K.** (1970)  
Data Processing  
B.A., Abilene Christian College  
B.S.E., Abilene Christian College  
M.B.A., George Washington  
University

**Young, Frank H.** (1969)  
Mathematics  
A.B., M.A., San Francisco State  
University

**Yutzy, Jan C.** (1972)  
Astronomy, Physics  
B.S., Boston College  
M.A., University of Calif., Berkeley

**Zempel, William H.** (1964)  
Meteorology, Physics  
B.A., San Jose State University  
M.N.S., Arizona State University

**Zimmerman, Paul C.** (1967)  
Architecture  
B.Arch., University of Calif., Berkeley  
A.I.A.

**Zones, Christie P.** (1968)  
Geology  
A.B., University of Pennsylvania  
M.S., University of Nevada

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## Emeriti

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**Dr. Elizabeth G. Balderston**  
English, Dean of Women

**Dr. Francis M. Stanger**  
History

**Dr. Harry E. Redeker**  
Chemistry

**Leslie Wilson**  
Geology, Engineering

**E. H. Bashor**  
History

**Edla R. Walter**  
Librarian

**Leonora Y. Brem**  
Health Education

**Martha E. Burrill**  
Coordinator of Admissions and  
Registration

**Gladys L. White**  
Business

**Harry T. Mercer**  
English

**Erford A. McAllister**  
Journalism

**Dorothy F. Herrington**  
French

**Roland K. Abercrombie**  
Business

**Dr. William L. Roach**  
Psychology

**Carol E. Boyd**  
Home Economics

**Dr. David G. Rempel**  
History, Political Science

**John G. Ames**  
Mathematics

**Marjorie L. Hoffman**  
Mathematics

**Francis M. Coe**  
Agriculture

**Maurine Marsh**  
Spanish

**Alice W. Danielson**  
Home Economics

**Ainslie Harris**  
English

**Mildred H. Stickney**  
Business

**Fredric Roehr**  
Music

**Dr. Stanley L. Sharp**  
German, English, Speech

**Ralph W. Likens**  
Data Processing

**Margaret Cornahrens**  
Business, Counselor

**Alan P. Tory**  
Social Science

**Mildred S. Justesen Corcoran**  
Political Science

**Howard E. Durham**  
Foreign Student Advisor

**Woodson F. Hocker**  
Spanish

**Dell M. Fishback**  
Health Education, Counselor

**John P. Nystrom**  
Aeronautics, Counselor

**Dr. Claude M. Anderson**  
Astronomy

**Helen M. Foley**  
Coordinator, Community Programs

**Ruth H. Weston**  
Assistant Dean of Students

**Dr. Jacob H. Wiens**  
Director, College of the Air

**Fred J. Clark**  
Physics

**William R. DeHart**  
Technical Illustration

**William A. Goss**  
History, Counselor

**Anne M. Grubbs**  
Chairperson, Health Occupations  
Division

**Dr. Charles H. Haight**  
History

**James A. Ice**  
Chemistry

**Claire Langston**  
Dental Assisting, Counselor

**Zoia V. Petelin**  
Cosmetology

**Marjorie M. Wheeler**  
Early Childhood Education

**Marvin Alexander**  
Chairperson, Social Sciences Division

**Lorraine Bush**  
Cosmetology

**Amerigo T. Ciani**  
Librarian

**John Hecomovich**  
Telecommunications

**Dr. William J. Justice**  
Business Administration, Counselor

**Dr. Francis A. Smart**  
Business Administration

**Ruth R. Teel**  
English

**Dr. Karl Grossenbacher**  
Biology

**Clifford V. Horn**  
Business

**Margreta S. Husted**  
Chemistry

**Alexander J. Murphy**  
English, Counselor

**Edmond O. Shinn**  
Guidance, Testing, Counselor

**Dr. Rex J. Bartges**  
Biology

**Jeanne Blanchette**  
Nursing

**Harry F. Clinton**  
Business

**Yolande S. Hilpisch**  
College Nurse

**Marvin A. Kolber**  
Biology, Zoology

**Edward A. Kusich**  
Engineering, Mathematics

**Dr. John A. Montgomery**  
Business Administration

**Harry W. Prochaska**  
Art

**Elizabeth K. Rempel**  
Art

**Gilbert G.W. Steed**  
Art

**Alice P. Wilson**  
English

**John B. Bestall**  
Engineering

**Herbert W. Free**  
Real Estate

**Winifred P. Stetson**  
Business, Counselor



# General Information





## Focus on Faculty . . .

### DUANE WAKEHAM

"I wouldn't be happy if I weren't painting," says CSM Art instructor Duane Wakeham, who painted the landscape reproduced on the cover of this year's Catalog ("Late Summer Evening," oil on canvas, 48"x54").

Since his junior high school days in Michigan, Wakeham knew that he wanted to spend his life as an artist. After graduating from high school and working for two years, he enrolled in Meinzinger Art School in Detroit to study commercial art, but the beginning of his classes coincided exactly with the beginning of the Korean war—within seven months he had dropped out of school to enlist in the Navy. Following his four years in the service stationed in various parts of Japan and Hawaii, he re-thought his career goals. "Somewhere along the line I realized that attending college was important to me, that I wanted a more complete education than an art school offered," he says.

After his discharge from the Navy, Wakeham budgeted the four years of educational benefits he had earned so that he could make the best use of his time and college experience. He completed his B.A. at Michigan State University in three years, leaving a full year for graduate work at Stanford, where he was awarded a teaching assistantship. From that initial teaching experience, Wakeham decided to combine painting and teaching. He has found that the two careers complement each other well. "At first I was concerned that there wouldn't be enough time for painting, but I find that teaching is stimulating to my own creative activities. And being a painter is an important asset to my teaching—I'm able to share what goes on in the studio with my painting students, and in art history classes I approach the subject from a painter's point of view."

After three years of teaching drawing and painting classes at Stanford, Wakeham went to Europe in 1962, where he lived for two years while travelling, painting, and studying the works of art he now teaches about in art history classes at CSM. He describes himself as "a painter who happens to teach art history," since his experience teaching the subject began when he joined the CSM faculty 13 years ago. "I really love it," he says now, adding with delight that he gets an extra bonus by being able to spend hours each week looking at many of his favorite works of art. Until recently he preferred to teach just art history courses, saving his creative energies for his own painting. During the last year, however, he has added painting classes to his schedule. "I'm glad I made that decision," he says. "It's good to be teaching a studio class again, and I find that it doesn't interfere with my painting as much as I thought it might."

Having time to work in his own studio is essential to Wakeham, whose paintings are handled by Ankrum Galleries in Los Angeles. It was at an exhibit there that his work caught the eye of the editor of *American Artist* magazine: a feature article about his paintings appeared in the November 1977 issue of that much-respected national publication.

Considering his dual life as a painter and teacher, Wakeham says, "It keeps me busy and happy. Painting is very important, but I also get great satisfaction from teaching, particularly when a student comes back to say that the training he received at CSM was better than at a four-year school because there is so much more personal attention." Perhaps part of the reason Wakeham finds teaching a rewarding part of his life as an artist is that he has been influenced significantly by his former teachers.

While still a student, Wakeham says he began to have doubts about becoming a painter, wondering if he had any message to communicate. "I finally confessed that fear to Abraham Rattner, with whom I was studying at the time. His answer was very short and direct. He said, 'Having something to say as an artist is simply sharing a way of seeing and feeling.' And that answer has followed me through my life. That's what I'm doing today in my paintings."

## General Information

### The District

Starting with just 42 students when it first opened its doors at the Baldwin campus in downtown San Mateo in 1922, the San Mateo Community College District has grown to a complex of three modern campuses serving more than 26,000 day and night students from throughout San Mateo County.

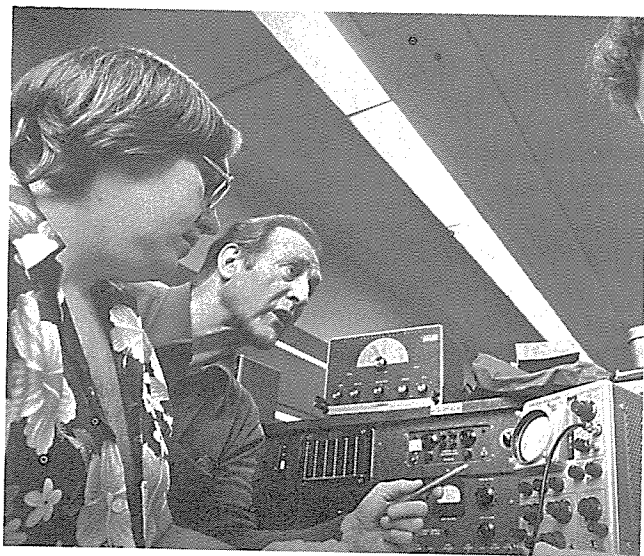
In the beginning, the District consisted only of the area within the San Mateo Union High School District. In 1937 the Jefferson Union and Half Moon Bay high school districts were included, and the San Mateo Junior College District Board of Trustees was established. (The name of the District was changed to San Mateo Community College District in 1973.) Sequoia Union High School District joined the college district in 1961, and South San Francisco Unified School District was annexed in 1966. In July of 1976 the District annexed the La Honda-Pescadero Unified School District, and in recognition that District boundaries were now conterminous with those of the County, the District name was again changed, to San Mateo County Community College District.

First classes were held in a building shared with San Mateo High School in downtown San Mateo. In 1923 the college moved to a large house on the Kohl Estate, in what is now San Mateo's Central Park, and added some tents to handle the overflow attendance. Four years later the high school occupied a new campus, and the college

acquired full use of its "birthplace location," known as the Baldwin campus.

In 1939 a new campus went into operation at North Delaware Street and Peninsula Avenue, San Mateo, but World War II put a stop to optimum development of that site. As a result, when the tide of returning servicemen began to roll in at the war's end, the college leased the Merchant Marine Cadet School at Coyote Point, San Mateo, and added those facilities to the classrooms at the Baldwin and Delaware campuses, thus conducting classes simultaneously at three separate locations.

In 1957 the Board of Trustees developed a 25-year district master plan based on the recommendations of a Citizens Advisory



Electronics instructor George Angerbauer is the author of "Principles of DC and AC Circuits," a textbook and study guide used in Electronics classes at the College.



*Chemistry instructor Dr. Kate Murashige has become the campus safety expert—she recently completed a special course which qualifies her to teach other instructors the necessary safety standards to be maintained in lab and storage areas.*

Committee, and the same year submitted a \$5.9 million bond issue to voters that was approved by an overwhelming 3 to 1 margin.

The bond issue victory cleared the way for prompt acquisition of the present College of San Mateo campus, and also provided funds for purchase of a 111-acre site west of Skyline Boulevard and south of Sharp Park Road in San Bruno. A third site, of 131 acres

west of the Farm Hill subdivision on the Redwood City-Woodside line, was purchased in 1962.

College of San Mateo campus was opened in 1963, followed by Canada College, Redwood City, in 1968 and Skyline College, San Bruno, in 1969. Construction of Canada and Skyline was made possible in large part from proceeds from a second bond issue of \$12.8 million approved by District voters in 1964.

The College and the District continue to work towards the goal of Trustees' master plan — To provide sufficient junior college facilities for the district for the rest of the 20th Century.

### **The College**

College of San Mateo, the "oldest" of the three colleges in the San Mateo Community College District, is located on a 153-acre site that provides a panoramic view of the entire north Bay Area.

Completed at a cost of almost \$19.5 million, the campus opened its doors in 1963 and currently serves more than 14,000 day and night students. It enrolls students from the entire District, although its chief service area is central San Mateo County.

The College's main educational structures are built along a north-south axis provided by the main pedestrian mall. A second mall, running east and west, connects the Fine Arts Center with the Library. Total gross space is 537,000 square feet, with 160 teaching stations, plus offices, storage rooms and supporting facilities.

The architectural style for College of San Mateo emphasizes both aesthetics, in dignity and structural clarity and practicality — a fitting setting for pursuing a quality education.



## Philosophy and Purposes of the College

College of San Mateo has established its educational philosophy on three fundamental premises: that a free society requires intelligent support; that the individual has worth and dignity; and that a college has obligations both to society and the individual.

As a corollary to these premises, the college realizes that in its role of community college it must remain sensitive to changes in the needs of its area and evolve its educational offerings in response to those needs.

In general the purpose of College of San Mateo is to provide education beyond the high school level for the people in its area who can profit thereby. This education is designed to help the student realize his or her potential by pursuing cultural and vocational abilities. It prepares the student to assume the responsibilities of citizenship in our free society. It attempts to develop in the student the ability to think critically.

To achieve its purpose, College of San Mateo offers the following kinds of education:

**General Education:** Instruction which helps students function effectively as individuals, as members of their families, and as citizens with local, national and world responsibilities.

**Lower-Division College Education:** Courses which enable students to complete the first two years of four-year college work. These courses satisfy the lower division requirements in the liberal arts and in scientific, engineering and other professional and technical fields.

**Career Programs:** Instruction designed to develop personal and technical competencies necessary for successful employment in specific careers.

**Continuing Education:** Classes in which all persons living in the area may broaden their educational, vocational and aesthetic horizons.

**Community Education:** Short courses, public forums, lecture series, small group discussions, institutes, concerts and similar educational and cultural programs for the public at large.



*Dean Chowenhill, who teaches Drafting classes, has recently added counseling duties to his regular schedule.*

To assist students in profiting most from their education, the college helps them to explore their aptitudes, choose their lifework and plan an educational program which will prepare them for that work. It offers this assistance through a formal program of guidance and counseling, and through informal student-teacher relationships, which are among the most distinctive and valuable of its services. The college recognizes the educational value of organized student activities and encourages student and faculty participation in these activities.

Situated as it is, close to San Francisco and to several fine colleges and universities, College of San Mateo is a part of a colorful



Music instructor Fred Berry conducts CSM's award-winning Jazz Band, which has taken top honors at college jazz festivals throughout the state. Berry has also developed a new course, "Jazz Band," for aspiring jazz musicians.

community which enjoys many cultural advantages. Many College of San Mateo graduates transfer to the University of California, Stanford University and the nearby state universities. Because the needs of these students who transfer to upper division work are carefully provided for in the curriculum, the college enjoys a fine reputation among the universities of the state. Graduates have consistently had a pattern of success in four-year educational institutions. Many College of San Mateo students, having temporarily

completed their formal education with the Associate in Arts or the Associate in Science degree, find employment in business and industry.

#### **Accreditation**

College of San Mateo is fully accredited by the Western Association of Schools and Colleges, the recognized local agency which is affiliated with the Federation of Regional Accrediting Commissions of Higher Education.

### **Revision of Regulations**

Any regulation adopted by the Administration of College of San Mateo will be considered an official ruling and will supersede regulations on the same subject which appear in this catalog and other official publications, provided that the new regulation has been officially announced and posted.

### **Veterans and Veterans' Dependents**

College of San Mateo is listed by the Veterans Administration as qualified to receive students under Chapter 34 (veterans), Chapter 35 (veterans' dependents) and Chapter 31 (vocational rehabilitation). All students, except those under Chapter 31, buy their own books and supplies. Those interested in attending College of San Mateo under any of these chapters should contact the Office of Veterans' Affairs, Rooms 249 and 251 in the Administration Building, to determine eligibility for benefits.

The State of California provides a program for children of veterans who are deceased or are disabled from service-connected causes. Application should be made to the California Department of Veteran Affairs at 350 McAllister Street in San Francisco.

### **Costs to Students**

All students are required to pay a Health Service fee for each semester.

Each student purchases his/her own textbooks and supplies. A considerable saving is possible through the purchase of used texts from the on-campus College of San Mateo Bookstore. Excluding living and transportation costs, the total of all expenses, including membership in the Associated Students, should not exceed \$150 per semester. Special equipment is needed for

certain courses such as Electronics, Drafting, Engineering, Art and Architecture, involving an additional initial outlay ranging from \$25 to \$125. Please refer to course descriptions for special costs.

In addition to other costs, non-residents pay tuition.

### **Tuition (Non-Resident Fee)**

No tuition is charged to legal residents of California who reside in San Mateo Community College District. No tuition is charged to legal residents of California (see Residence Requirements for Admission on page 38) who reside outside of San Mateo County and qualify for admission.

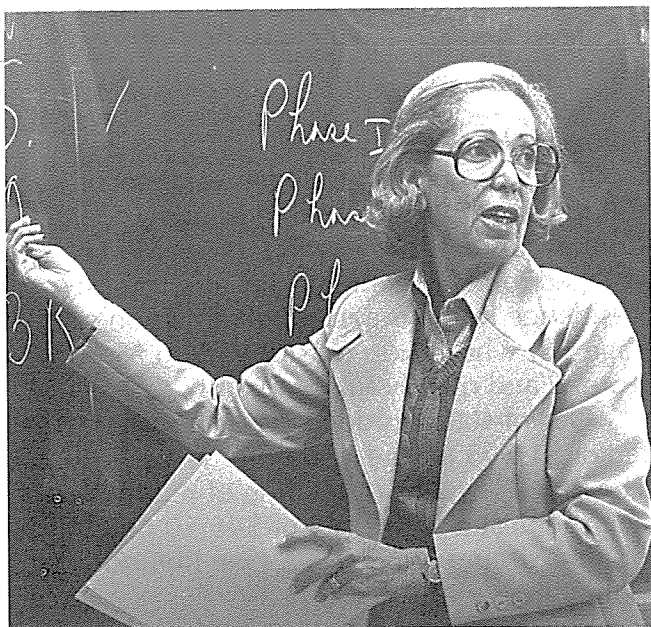
Out-of-state residents pay a non-resident fee of \$1,395 for the academic year 1978-79. The fee is payable at the time of registration each semester at the rate of \$46.50 per unit or a maximum of \$697.50. (See Refund Policy, page 40.)

Resident status is determined by the Office of Admissions and Records. Detailed regulations governing non-resident fee and admission requirements will be distributed to students who apply for admission.

### **Parking**

Parking for students is provided without charge in clearly designated areas on the campus. Most of the parking is located at the entrance to the college, in the southwest sector of the campus. Certain parking areas are reserved for visitors with permits and for staff who hold permanent parking permits. Parking and traffic regulations are enforced by the Campus Security Office and violations are cited to the San Mateo Municipal Court. Student parking is provided in Lots 1, 2, 3, 9, 10, 10A, 15, 16, 17, with parts of Lots 2 and 3 having some spaces reserved for permit parking. Locations are shown on the campus

map. Questions regarding traffic should be directed to the Security Office in the Student Center.



English instructor Anita Lehman has developed a series of new courses designed to help students master the writing skills they'll need in various areas of industry. "Writing for Industry" classes will be offered during the Fall and Spring semesters of 1978-79.

### High School Diplomas

The college does not issue high school diplomas. Students who wish to complete requirements for the diploma should consult the high school they last attended to determine graduation requirements. College courses used to satisfy a high school diploma requirement may not be used toward a college degree. Students who are unable to make arrangements with their previous high schools can contact the office of the high school district in which they now reside. Counseling services for high school diplomas may be obtained by persons living in the San Mateo Union High School District by phoning 347-9871 and asking for the Adult Education Counselor.

### The Learning Resources Center

The Learning Resources Center is designed to meet the many and varied learning needs of CSM Students and to support the faculty in the development of innovative instructional programs. With its panoramic view of the Bay Area, the three-story Learning Resources Center is an inviting place for both students and faculty to study and browse. The Library, located on the main floor, offers general book, reserve, reference, periodical, and microfilm collections. The mezzanine is the open-stack book area. (Non-book media are located on the lower floor in the Coordinated Learning Lab.) The union catalog lists both print and non-print media. There are many tables for individual study and carrels in the open-stack areas, as well as a typing room with copy machine and group study facilities. In the library collection, there are approximately 100,000 volumes, 850 carefully selected periodicals, and 3,200 reels of microfilm. The Library is open each school year, Monday through Friday, and on Sunday afternoons. Specific hours for the daily schedule and for holidays are posted at the Library entrance.

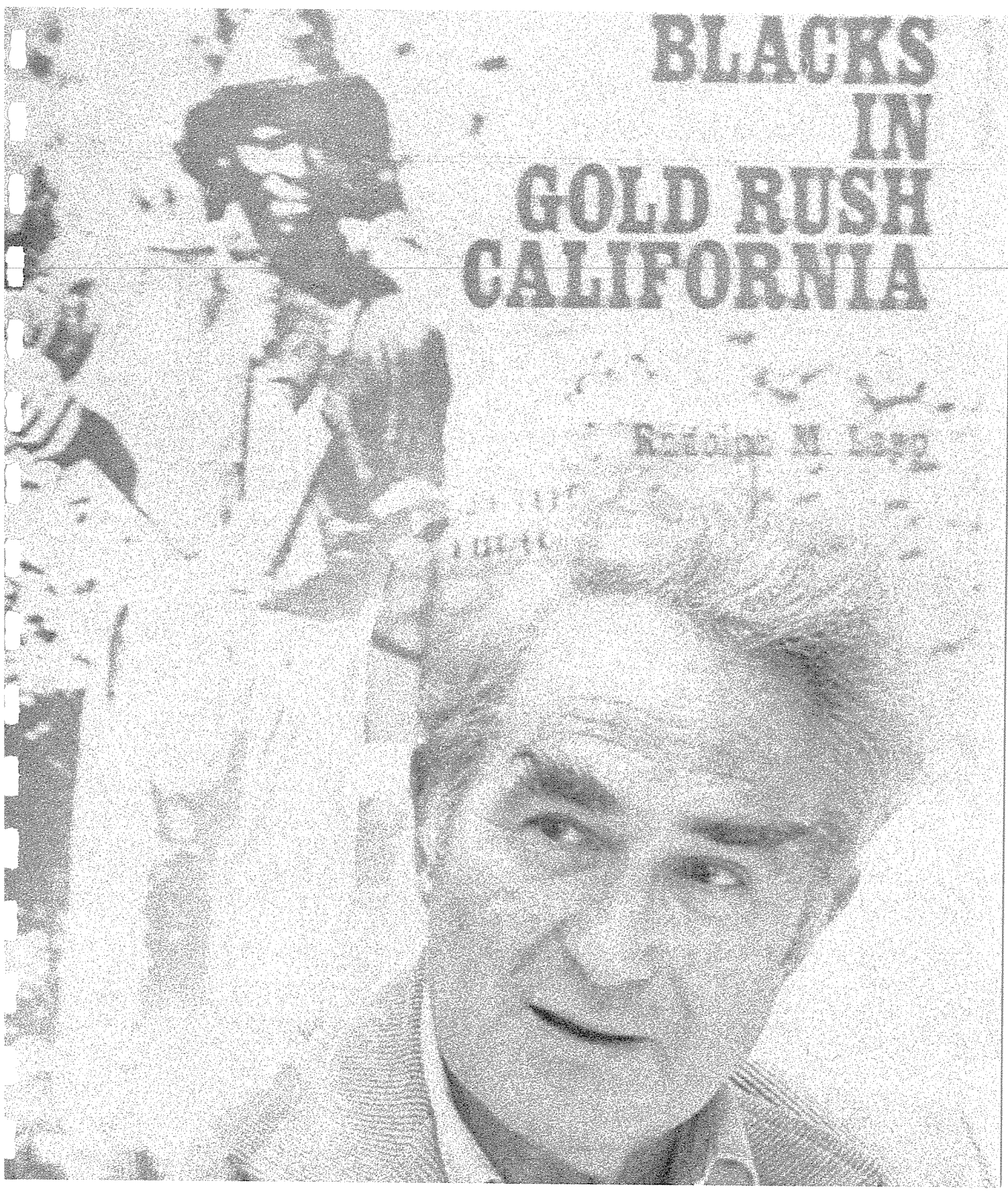
The lower floor houses the Coordinated Instructional Center, with many listening/viewing stations and 30 program sources using both reel-to-reel and cassette. There are two language labs available for student use, as well as faculty recording studios, preview rooms, photography darkrooms, a media production center, and a media equipment storage, repair and distribution area.

Instructional Services oversees this area and provides faculty with expertise in media and instructional design. The non-print collection contains 8,000 disc records, 8,000 tape and cassette recordings, 400 films, and thousands of slides and filmstrips.



# BLACKS IN GOLD RUSH CALIFORNIA

Richard M. Long



## Focus on Faculty . . .

### DR. RUDOLPH LAPP

Quite a stir was created here in September of 1977—it was then that Dr. Rudolph Lapp, CSM History instructor, received word that his new book, "Blacks in Gold Rush California," had been selected for consideration for a Pulitzer Prize. As far as anyone can recall, it was the first time a College of San Mateo instructor had been so honored.

Pulitzer Prizes are awarded for meritorious work in the various fields of journalism, United States history, American biographies, poetry, fiction, music and dance. They were established in 1917 by Joseph Pulitzer in a bequest to Columbia University, and have been awarded annually at the recommendation of the Pulitzer Awards Committee, the group which is now considering Dr. Lapp's book. At the time this Catalog went to press, the final decision of the committee was not known, but to Dr. Lapp, "just being considered is enough."

The Pulitzer committee's recognition of his work culminates 17 long years of research into the history of blacks in the Old West, which he began in the late '50s while preparing to teach courses in California and Afro-American history. In his reading he noticed references to blacks as miners in California's Gold Rush and became intrigued. He delved deeper into the little known fact that blacks, too, came to California to make their fortunes and contribute to the development of the West Coast. Though historical records of blacks during the Gold Rush years were sketchy at best, Dr. Lapp was able to gather enough material for articles which were published by historical journals in the 1960s, plus a limited-edition book called "Archy Lee, The Tale of a Fugitive Slave."

Encouraged by the success of his research and still fascinated with the subject, he decided to work on a full-length book in 1972. He was supported in his endeavor by a sabbatical leave from his teaching duties, grants from the American Philosophical Society, and a fellowship from the National Endowment for the Humanities—all of which were essential, since further research would take him as far as London. In 1975 his book was completed and accepted for publication by Yale University Press, which saw his work as a "missing chapter of history." For the first time, Yale editors said, there is a detailed record of the life of blacks in mining camps, their relationships with other groups, the history of the California Colored Convention, and the reasons blacks chose to migrate to the West.

Those reasons, Dr. Lapp discovered through his research, were the same for blacks as they were for white migrants—though some were escaped slaves, most were free men who came to California voluntarily to seek their fortunes, and many of them were successful in their ventures. Dr. Lapp hopes his book will help dispel the myth of the complacent, unambitious black and will temper the white image of the California Gold Rush days. It should, since "Blacks in Gold Rush California" has been published and distributed not only in this country, but also in Great Britain, Europe, Africa, Asia, Latin America, Australia, and New Zealand.

Dr. Lapp says that when he first heard about the Pulitzer committee's interest in his book he was "very excited—I was six feet off the ground for days." He says he's since come back down to earth, but still considers the honor he's been paid a "fantastic" reward for his years of work on the project. He has no immediate plans for doing more writing—he'll continue the teaching career he started here in 1955, to the delight of his co-workers and students at CSM.



Also located on the lower floor are the television and radio studios.

Through open-circuit, the College of the Air, KCSM-TV, Channel 14, provides courses to those students not able to come to the campus for their learning experience. Closed-circuit television provides both live and taped video for some 90 classrooms on campus. KCSM-FM broadcasts stereo to the greater Bay Area on 91.1 Mhz, providing a wide variety of programming to meet both student and community needs.

The Career Development Center is located on the lower level of the Learning Resources Center (Library Bldg.) A variety of short courses, open forums, individual and group career exploration activities and professional counseling services are available to assist students with academic, personal or career planning. For further information contact the Career Development Center or the Office of Student Services.



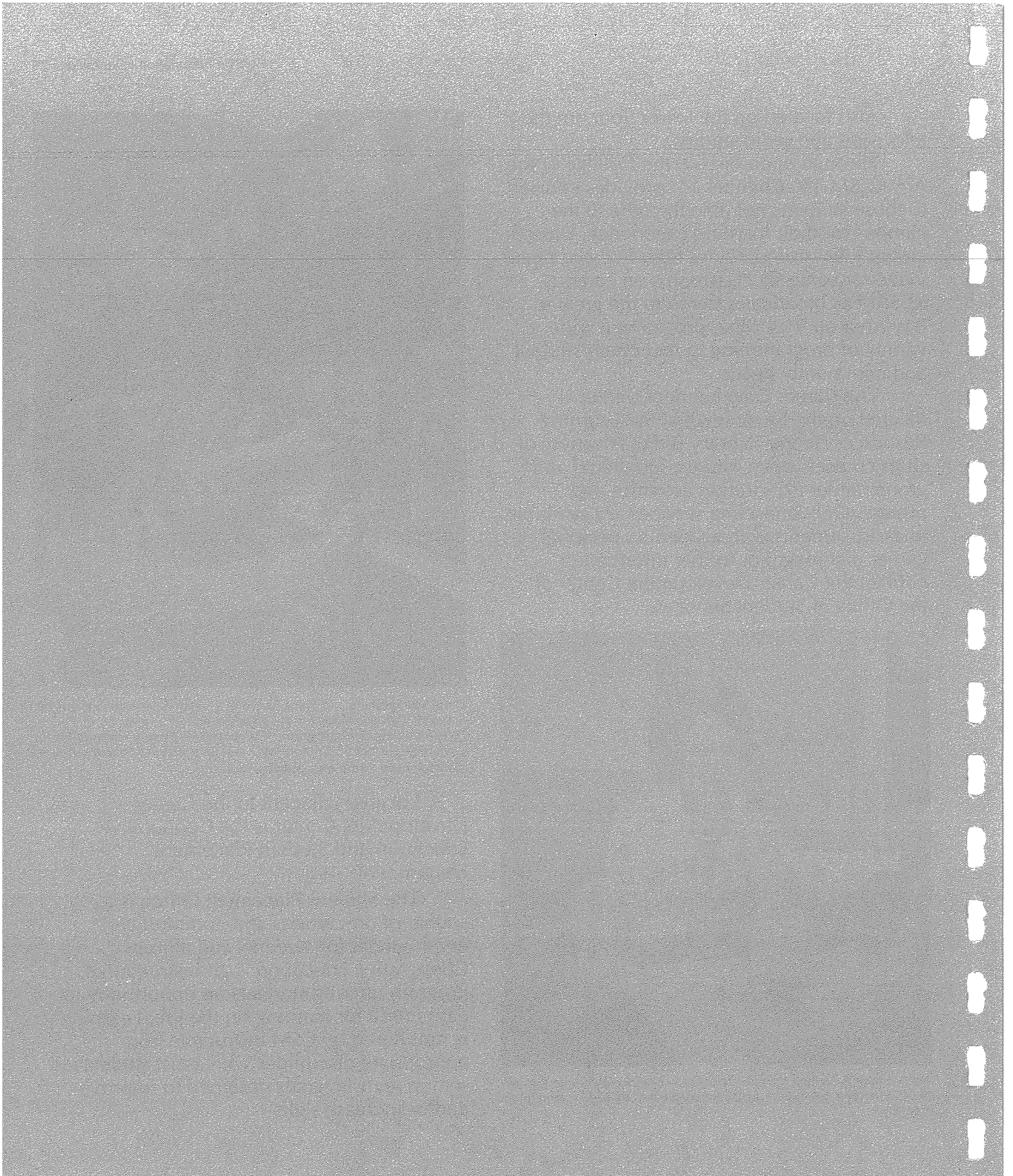
*Doug Montgomery and Frank Lanzone (seated) have received special Board of Trustees funds for the development of a new Telecommunications program. "Computerized Program Scheduling for Television and Radio Technicians" will offer instruction in the newest methods used in the broadcasting industry.*



*This woman is earning college credit for her work experience through the Cooperative Education program coordinated by CSM instructor Jo Ann Rock.*

Located adjacent to the Career Development Center is the Cooperative Education and Student Placement Department.

The Student Placement Office is a source of on-campus and community employment for students and alumni. Cooperative Education is an instructional program offering students an opportunity to earn credit for learning on the job. Learning is monitored by CSM instructors from appropriate disciplines who assist students in setting realistic goals designed to improve and/or increase skills.





# Evening and Summer Sessions





## Focus on Faculty . . .

### JOHN NOCE

In the 16 years since John Noce came to CSM as head baseball coach, he's seen his teams win eight Golden Gate Conference titles and place as runners-up for two state championships. Thirty of his former players have signed contracts with professional baseball teams, and four of those advanced to major leagues. During the 1977 season, Noce marked a milestone—he coached his team to the 400th win of his career at the College.

These statistics (plus others well known by CSM baseball fans) have made Noce the fifth-ranked community college baseball coach statewide and explain, in part, why aspiring baseball players come here to begin their college careers. They know that Noce lives and breathes baseball and that as a former pro ball player himself (in 1952-53 for the California League in Stockton and Ventura), he's able to offer the kind of training essential in the competitive world of sports.

"It's been my life," Noce says. "I've been very happy coaching here at CSM—it's been very gratifying. And the fact that we've been successful (and have had a series of winning teams) is just frosting on the cake." He says that when he was a CSM student himself (before attending University of Pacific for his B.A. and San Francisco State University for his M.A.), he had no idea that he'd be returning one day as coach. He started his coaching career at area high schools, coming here when his friend Gordon Gray, CSM's former baseball coach, assumed the chairmanship of the Physical Education Division. Since that time, Noce has established a reputation for himself as an "extremely successful" coach who is able to put together good teams, give them professional training, and build and maintain CSM's excellent record in college-level baseball competition.

As a full-time Physical Education instructor, Noce teaches various classes in the Fall and devotes each Spring semester to baseball. For the past five years he's spent his summer vacation months in French Quebec coaching an amateur ball club there. And for the past three years, he's also travelled to Italy, where he's the assistant coach of the Italian National "All Stars" team (which this year is hosting the world championship all-stars competition). Noce says his international connections were established when a former CSM player went to Quebec, heard about a summer coaching vacancy, and suggested Noce for the job. After a few summers there, he met someone from the Italian National team and was invited to divide his time between the two countries. When asked if he doesn't get "burned out" after spending three-fourths of every year coaching baseball, Noce laughs an emphatic "no." "I love it," he says, "I can't think of anything I'd rather do."

Physical Education Division Director Cliff Giffin is glad Noce feels the ways he does. "He's certainly one of our most outstanding instructors and a tremendous asset to CSM athletics," Giffin says. "I couldn't even guess how many boys have come here because of John Noce."

## Evening & Summer Sessions

### Evening Session

The evening session program is the product of an educational philosophy which asserts that the College of San Mateo serves not only the young people of the community but its adult members as well. Evening classes provide opportunities for students to resume interrupted education and to investigate new fields of interest; to take college courses leading to an Associate in Arts or Science degree or for transfer credit; to complete requirements for a certificate program; and to enroll in general continuing education classes for self-enrichment or improvement of job skills.

Classes in the evening program are open to persons who are over 18 years of age or are high school graduates. Students attending high school must have permission of the Office of Admissions and Records to attend evening classes. In credit classes, all students must enroll for the prescribed number of units, complete the required work, and be assigned a grade; no auditors are allowed. All units earned in credit classes are applicable toward the Associate in Arts or Science degree. Registration procedures are included in the Schedule of Classes, which is distributed at the college and through local libraries about four to six weeks prior to the beginning of each semester (see Calendar).

Certificate programs, planned mutually by the college and advisory committees, are available in the evening and include: Ornamental Horticulture, Vocational Gardening, Real Estate, Fire Science Training, Administration of Justice, Teacher Assistant, Library Technology, Early Childhood Education, Aeronautics, Secretarial, Business Management, and Business Merchandising. Certificates in these fields are issued upon completion of required and elective courses, and the units earned in them may be applied toward the Associate in Arts or Science degree for those persons who wish to continue their education.

Separate brochures are available at the Office of Continuing Education in the Administration Building for outlines of programs, course descriptions, explanations of programs and certificate requirements. At the beginning of the final course required for a certificate, it is the responsibility of each candidate to file an application in the Office of Admissions and Records (see Calendar).

### Evening Final Grade Reports

Final grade reports will be mailed to all evening students enrolled in credit classes. Mid-term grade reports will be mailed to an evening student only if his/her cumulative record shows a potential probation or dismissal status.

### Evening Fees

The College of San Mateo does not charge evening tuition. Certain courses have fees covering special supplies, services or equipment which are payable by both adult and minor students.

### Out-of-District Students

With the exception of residents of San Francisco and Peralta Community College districts, students whose legal addresses are in another community college district are required to present a release from that district before being allowed to register in any evening class. This release must be presented at the time of registration; places cannot be reserved for students who intend to secure a release at a later date.

### Out-of-State Students

Out-of-state students may register in evening classes, but will be required to pay at the rate of \$46.50 per unit for courses at the time of registration (see Tuition Policy, page 25).

### Foreign Students

Students who are legal residents of another country and are in the United States on other than immigrant visas may not register in evening classes without approval of the Office of Admissions and Records. Immigrants as residents in the District are eligible to register.

### Evening Testing

The School and College Aptitude Test (SCAT) and Coop English Test are administered each semester for students planning counseling appointments. The English test is required of all students planning to enroll in English classes.

### Evening Registration

Registration for classes and dates of registration are described in detail in the class schedules. Registration in classes is closed at the end of the second class meeting if the class meets once a week and the third class meeting if the class meets twice a week. It is recommended that beginning students with full-time occupations do not enroll for more than two evenings per week. No auditors are permitted.

### Evening Schedule of Classes

A schedule of classes, indicating times, days and locations, is printed for each semester and is available prior to the registration dates at College of San Mateo and the public libraries. While the basic program in the evening is similar from year to year, the specific classes presented at any given time may vary from those of the previous semester. For offerings of any given semester, consult the current Schedule of Classes.

### Evening Academic and Career Counseling

Every effort is made to assist students in the wise choice of individual courses, major fields and even career goals. Drop-in counseling services are available in the second floor

of the Administration Building from 6:30 until 7 p.m. Counseling appointments may be made for the hours 7 until 9 p.m. by calling 574-6165. Anyone who wishes individual counseling should bring transcripts of previous work to his/her interview. Contact the Office of Admissions and Records for an appointment.

Additional career counseling and career exploration services are available through the Career Development Center and regularly offered Guidance classes (Guidance 10, 30, 31).

### Withdrawal Procedure from Evening or Summer Sessions

Students wishing to withdraw from an evening or summer session class must obtain a permit to withdraw from the Office of Continuing Education or the Office of Admissions and Records, Building 1, second floor.

Withdrawal from evening and summer classes is the responsibility of the student. A student who does not withdraw, in accordance with established procedures, may receive a grade of "F."

### Summer Session

A balanced offering of day and evening summer session classes enables students to accelerate their programs or satisfy course or curriculum requirements. The Summer Session also affords opportunity to exceptionally able high school students after completing the junior year to take selected college courses. Further information may be obtained by calling the College of San Mateo, Information Office (574-6544), or by contacting the high school counselor.



# Admission Requirements Registration





## Focus on Faculty . . .

### CAROL HEITZ

In the Fall of 1975, CSM opened a new Career Development Center, and it soon became apparent that there had been a need that was just waiting to be met. By the end of its second year in operation, nearly 10,000 students and area residents had taken advantage of its many services: an extensive reference collection of career information and training materials; labor market trends and projections; discussions with experts on what it's like to work in different career fields; individual counseling; and short courses designed to teach skills that can help students make the right career choices.

The Center is run by Carol Heitz, a counselor and Guidance instructor who's been at the College since 1964. She was involved in the initial planning of the Center and is not surprised that it has become one of CSM's biggest success stories. "In these times of high unemployment, there's a tremendous need for the services we've been able to offer," she says. "Jobs are hard to get, and people are very cautious about choosing the right career field—they know they need to be very careful in making their choices."

It's not as simple as just picking a job that sounds good, she says. The Center operates on the philosophy that self-awareness and understanding are essential to making the right career choice—an individual's strengths and weaknesses, interests, attitudes, lifestyle, and personal goals must all be considered, along with an assessment of work skills and aptitudes. "That's why we call it the Career Development Center," she explains. "People tend to think of us as job trainers, which we're not at all. We're concerned with career education and awareness."

It's for that reason, she says, that the Center sponsors special classes in career exploration, decision-making, and job search strategies, as well as making individual and small-group counseling services available to students. And, since most students aren't aware of the many resource materials available to career-seekers, the Center has a full-time career resource technician, Elaine Burns, who maintains a complete collection of information on job listings (with some 45,000 different occupational titles), employment projections, training opportunities, and the skills and education needed to land a particular job. "Many people don't realize that there's a whole body of information that they can use in making these decisions," Burns says. "Career choices don't have to be accidental, though unfortunately, many of them are."

Heitz and Burns (who's also a credentialed counselor) say they often encounter students who come to the Center in a state of near panic. "A lot of people come to us after they've already decided what they want to do, have nearly completed the necessary training, and suddenly realize that they're not happy with the choices they've made," Burns says. "Their immediate reaction is to throw away the training they've already had and start all over. What they don't realize is that there are all kinds of alternatives available to them." Heitz echoes Burns' comments: "I just wish more people would visit the Center before they commit themselves to a career decision."

Heitz says she's found her involvement with the Center to be very satisfying. "It's an exciting place to be—you never know what's going to happen. We're faced with all kinds of challenges, but it's really rewarding when we're able to help a student find the 'right' career."

The Career Development Center is located in the lower level of the Library and is open weekdays from 8 a.m. to 4:30 p.m. For evening hours and more information, call 574-6571.

## Admission Requirements — Day Classes

### Admission

Admission requirements must be completed before a student will be permitted to register.

### Admission Requirements — Day Classes

Students applying to the College of San Mateo who wish to enroll for more than 9 units per semester are required to:

1. File a written application for admission on forms supplied by the College.
2. Request that two complete transcripts be mailed directly to College of San Mateo by the high school of graduation (or the high school last attended), and each college attended.
3. Take Placement/Counseling tests and other specific examinations necessary. (See schedule of tests on Application for Admission.)

Students who do not complete the transcript and test requirements for admission (2 or 3 above) may be limited to a maximum of 9 units in day classes at the time of registration (see Part-Time Students.)

Priority for registration will be given to students who complete the admission requirements one month prior to the scheduled registration period.

### Transfer Credits

Credit will be allowed for lower-division work done in other accredited institutions. All work presented will be evaluated by the Office of the Admissions and Records.

### High School Graduates

Normally, graduation from high school or other schools of equivalent rank or successful completion of a high school equivalency examination is a prerequisite for admission.

Persons over 18 years of age may be admitted to classes for which experience and maturity will, in the opinion of the President, qualify them, even though they are not high school graduates.

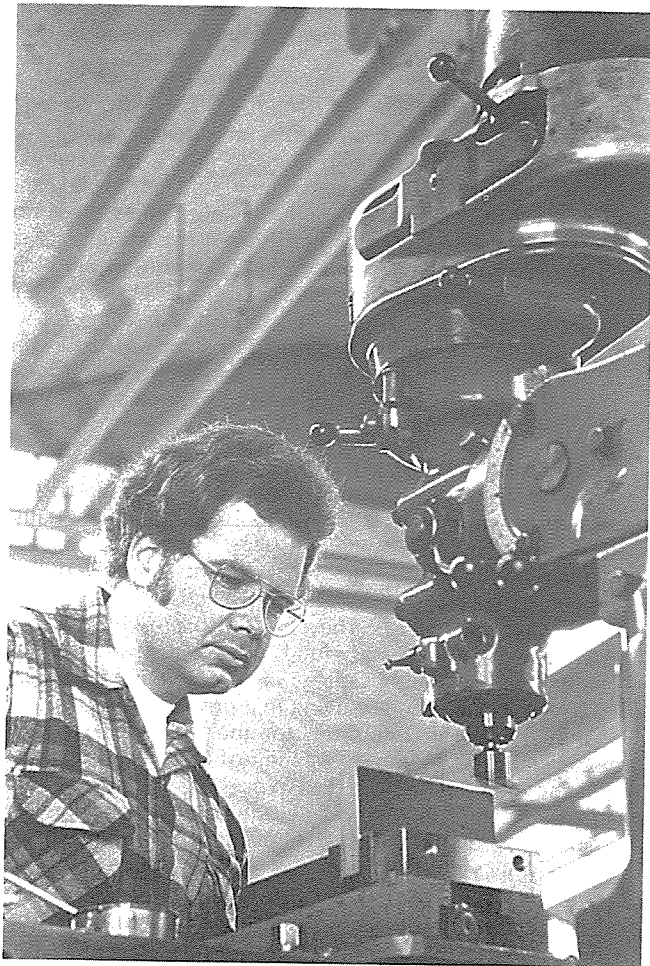
Any person who is not a legal resident of California or who is a legal resident of another community college district in California should see "Residence Requirements for Admission." See page 38.

### Transfers from Four-Year Institutions

Transfer students from four-year institutions are subject to CSM Academic Policy. See page 45.

### Transfers from Other Community Colleges

Students who have previously attended another community college and are in good standing are eligible to enroll at College of San Mateo, subject to residence requirements. Students who have been placed on probation by another community college will not be admitted in the semester immediately following their attendance at that community college. After one semester's absence, such students may be admitted, subject to the Academic Policy. See page 45.



### Former Students of College of San Mateo

Former students of College of San Mateo are eligible to return; however, if they have a grade point deficiency, they will be readmitted according to provisions of the current academic policies of the college. See page 45.

### Veterans

For academic credit purposes, a veteran is defined as an honorably discharged member of the United States Armed Forces who was on active duty for one year or more. Upon presentation of separation or discharge papers, veterans are exempt from the Health Science and Physical Education requirements for the AA/AS Degree. They are also entitled to six units of elective credit toward the AA/AS Degree.

In addition, veterans who qualify may receive credit for military service schools toward the Associate in Arts/Science degree upon presentation of proof to the Office of Admissions and Records. They must have completed a minimum of 12 units with a grade-point average of 2.0 at College of San Mateo. Units of credit for military service (6 units) and military service schools will be recorded on a student's record at the time of graduation.

### Part-Time Students

All regular day or credit classes are open to adults who wish to attend. A student who plans to take a maximum of nine units is designated as a part-time student. A part-time student must file application by the deadline date but is not required to take the general placement/counseling tests or submit transcripts. A part-time student planning to enroll in an advanced foreign language course and/or English course is required to take the appropriate placement test.

A part-time student who plans to earn an AA/AS Degree and/or certificate, or who plans to transfer to a four-year college, should complete all admission requirements.

### Foreign Students

Only those foreign students who have completed the equivalent of an American high school education with satisfactory grades will be admitted.

In addition to the above, foreign students will be required to demonstrate sufficient command of English to profit from instruction at the college. They must also present evidence that they have the necessary funds to take care of all living expenses while attending College of San Mateo, a minimum of \$150 to \$175 a month if living in a private home.

Application for admission for the college year (Fall semester) must be completed by the first week of April.

Foreign students are required to pay \$1,395 tuition for the academic year. The first year's tuition and a designated amount required for the purchase of an accident and health insurance policy must be paid prior to the issuance of an I-20 form.

Foreign students who have unusual circumstances that create financial hardships may petition for a waiver of tuition.

### Residence Requirements for Admission

The right to attend a public community college in California is, in addition to the academic requirements, determined by certain residence qualifications.

Non-residents, those students who have not been legal residents of California for one year or longer prior to the beginning of a term, are required to pay \$46.50 per unit with a maximum of \$697.50 per semester.

In general, the unmarried minor (a person under 18 years of age) derives legal residence from his/her father (or from his/her mother if the father is deceased) or, in the case of permanent separation of the parents, from the parent with whom the minor maintains his/her place of abode. The residence of a minor cannot be changed by act of the minor or that of the minor's guardian, so long as the minor's parents are living.

An adult must take steps to establish legal residence in the state at least one year prior to the beginning of the term.

Information concerning acceptable documentation of intent to establish and maintain California residency and exceptions from non-resident tuition is available in the Office of Admissions and Records.

An applicant who is a legal resident of another community college district must be a graduate of a high school and submit a written release from the superintendent of the community college district granting the student permission to enroll at College of San Mateo.

If an applicant is unable to obtain a release from the college district of residence, the student can attend by paying the non-resident fee of \$46.50 per unit.

### Choice of College

Residents of the district may elect to attend College of San Mateo, Canada College or Skyline College. In the event the capacity of one college is reached, students will be diverted to one of the other colleges. Major and date of application will be taken into consideration if such diversion becomes necessary.

Admission requirements must be completed before a student will be permitted to register. See page 37.

### Counseling/Advising Appointments

Upon completion of admission requirements, new and returning students will be given a counseling/advising and registration appointment prior to the opening of each semester. (See Calendar at the front of the catalog.) Students register only after receiving program approval from a counselor/advisor.

### Unit Load Limitations

A normal class load is 15 units. No student will be permitted to take more than 19 units without special approval of the counselor/advisor and the director of counseling services.



## Registration—Day Classes

Students working full time or those in the military service should limit their program to 9 or fewer units. Combinations of work and school should be carefully discussed with the counselor/advisor.

Auditing is not permitted in any class. No person will be allowed to attend a class unless he or she is registered in that section.

A program of 12 units or more is considered a full-time load for Financial Aid, Veterans Benefits, Social Security Benefits and other benefits which are dependent upon student status.

### Health Service Fee .

All students are required to pay a \$4 Health Service fee each semester. The summer session fee is \$2. (This fee is not refundable.)

### Program Changes

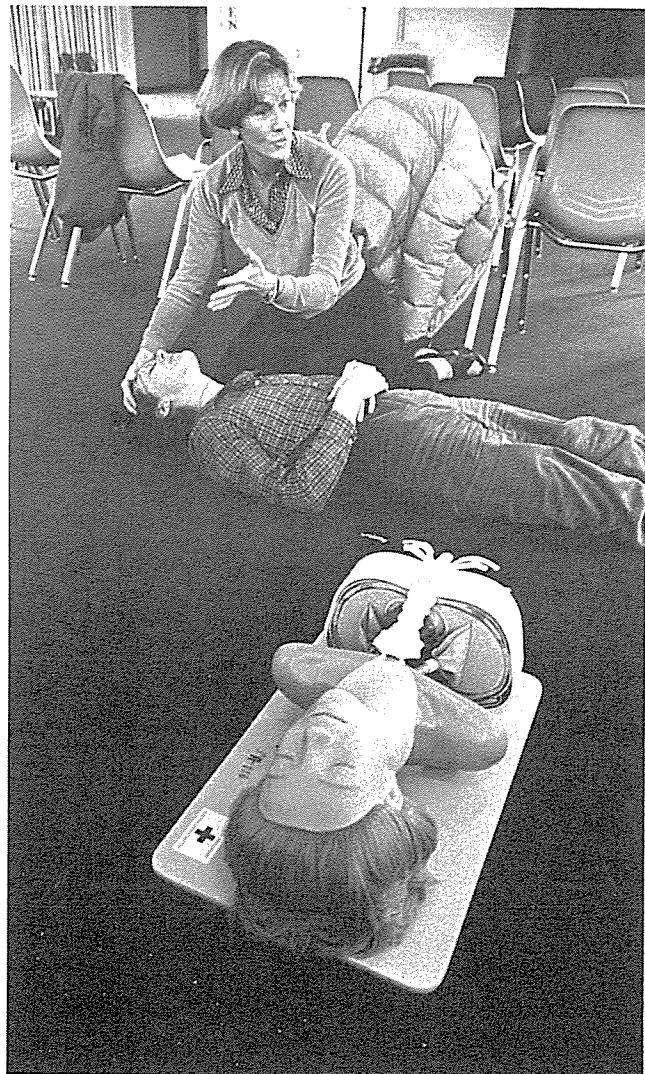
No changes of program will be permitted during the period of registration:

A program once entered by signing up for any given set of classes may not be changed in any way, unless written permission to do so is granted to a student by a counselor/advisor, and the student completes the prescribed change-of-program procedure.

Changes of programs will be permitted only for students who have valid reasons for such requests.

A student may not add a new semester-length class after the designated date indicated in the official college calendar. A student may add a short course no later than the third class meeting.

Students may withdraw from a semester-length course, whether passing or failing, at any time through Friday of the second census week and receive a 'W' grade. Students may withdraw from a short course, whether passing or failing, at any time during the first half of the course and receive a 'W' grade. After these dates, a student will receive an 'F' grade if failing or a 'W' grade if passing, as determined by instructor at the time of withdrawal. Class withdrawals will not be authorized after the start of final examinations. Students failing to follow established withdrawal procedures may be assigned an 'F' grade by the instructor. For further information concerning procedures consult the Class Schedule.



*Leah Tarleton's new course in "Cardiopulmonary Resuscitation" has been very popular with students, who can receive certificates qualifying them to administer emergency lifesaving techniques. Tarleton is the campus nurse and operates the Student Health Center.*

## Fees—Refunds

### Fees:

All day students are required to pay a health service fee. (See page 39.)

Foreign Students, out-of-state residents and, under some circumstances, California residents are required to pay a non-resident tuition of \$45.60 per unit. (See page 38 — sections on Foreign Students and Residence Requirements for Admission.)

Certain courses have fees covering special supplies, services or equipment.

### Refunds:

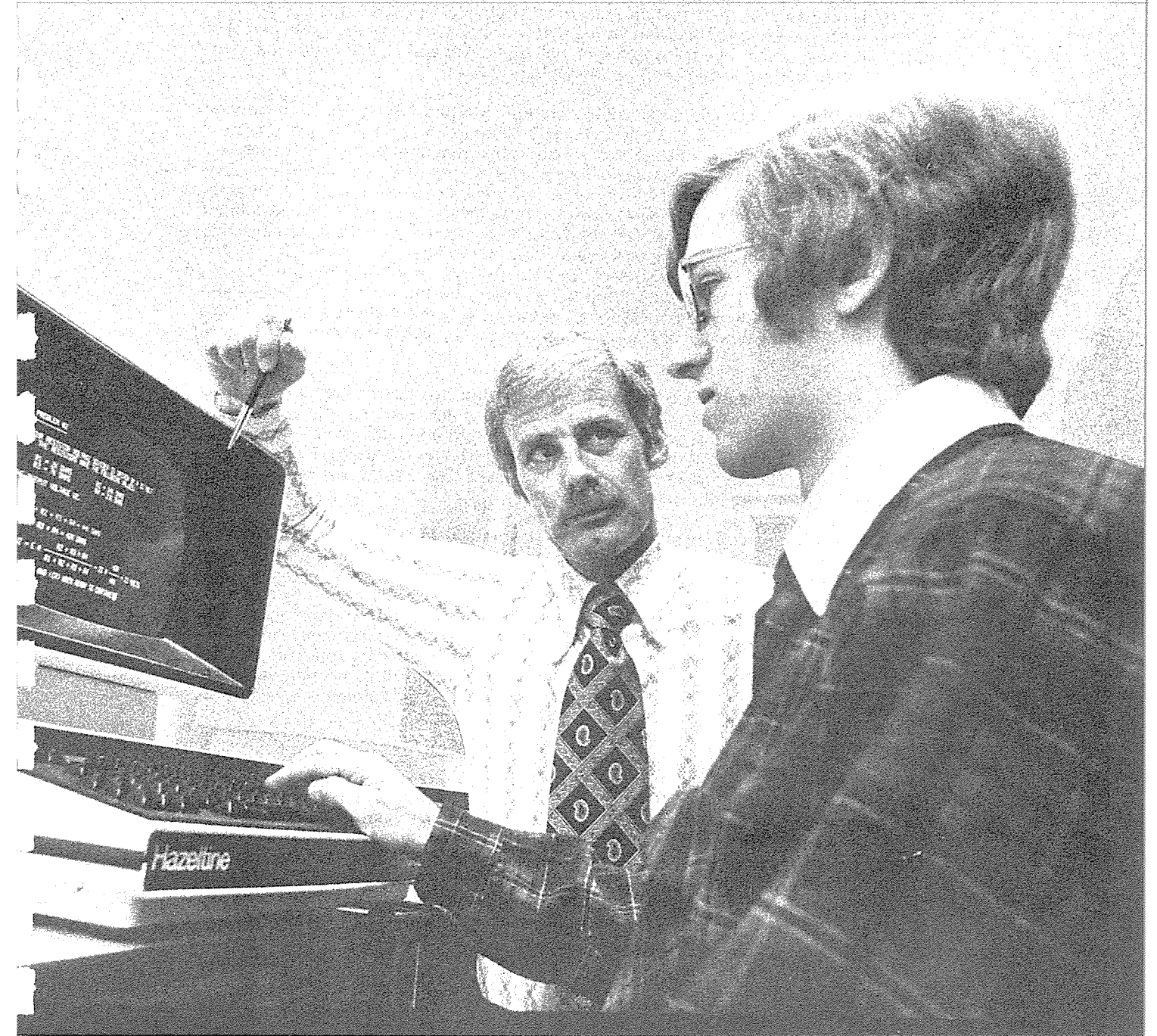
Non-resident and Foreign Student tuition may be refunded according to the following schedule:

1. Official Withdrawal from School
  - a. Prior to beginning of classes for those students who officially cancel their registration  
100%

- b. Official withdrawal from college during the first two weeks
  - 75% during regular semester
  - 75% during first week of summer session
  - 50% during second week of summer session
- c. Official withdrawal during third and fourth weeks
  - 50% during regular semesters
  - None for summer session
2. Change of Program
  - a. During the first two weeks for those students who reduce their class load by an official change of program
    - 100% on reduced program, prorated
  - b. Reduction of program during third and fourth weeks
    - 50% during regular semester
3. No refunds after the fourth week except for students
  - a. whose tuition has been collected in error
  - b. whose residence has been determined in error
  - c. who have been called into the military service

Refunds are not issued automatically. The student must complete a refund request form and submit proof of payment and appropriate withdrawal forms.

# Grades and Scholarship Academic Policy



## Focus on Faculty . . .

### FRANK YOUNG

Contrary to first impressions, ADDSUB, ADFRAC and ROFF1 are not science fiction characters—they're the code names for three "computer-assisted instructional modules" developed recently by Mathematics instructor Frank Young. Working with special grant funds and the assistance of Technology Division faculty, Young and his students have designed 24 such modules in the last year to help students master basic math skills and apply their knowledge to specific areas of technology. The response to learning with a computer has been so positive that Young is now working to complete another eight or more modules, which, like the original 24, will be available to all CSM students, even those not enrolled in Mathematics or Technology classes.

The modules are actually "interactive" computer programs which are printed out on a screen when a student sits down at one of the 11 computer terminals located around campus. (Five terminals are housed in the Math Lab in Building 16, four in Technology buildings, one in Building 11, and one in the lower level of the Library.) Once the student is given a user number by Carroll O'Conner in the Math Lab, he or she starts the program and receives instruction in a particular mathematical concept, complete with examples of how the concept is applied to specific problems. Then, with the student's assurance that he is ready to go, the computer poses five different problems, giving praise for correct answers and assistance when the student can't find the right solution. When the first five problems are worked through, the computer evaluates the student's performance and asks him if he would like to try additional problems. If at the end of the program the student is still having difficulty, the computer refers him to a specific worksheet for more practice.

Young says the response to "computerized learning" has been "great," and evaluations completed by students who have used the modules bear out that assessment. Comments range from "It's really good—I learned a lot," to "I just wish I'd found out about it sooner." Almost without exception, students say they like the interactive nature of the program, the fact that the computer carries on a dialog and provides immediate reinforcement for a student's efforts.

"It's been consistently demonstrated that a computer can be highly motivating when it's used in an interactive mode," says Young, "and I think it provides a valuable adjunct to the traditional classroom. If a student doesn't get the idea in class, it's likely to go right on by. But the computer doesn't go on to the next step unless it's specifically told to by the student—he or she can take as much time as necessary to learn the concepts." The only problem so far, Young says, was one that was anticipated: overcoming the intimidating nature of a computer and getting students to try the new learning approach. But, he adds, that problem is solving itself as word-of-mouth publicity brings more students into the Math Lab and they see for themselves that operating the programs is as simple as using an electric typewriter.

Young's familiarity with computers dates back to his nine years' experience as a staff mathematician and operations research analyst for the federal government. Though he says his first love has always been teaching, he wanted to gain experience in the field, which he says has proved "invaluable" in his work as an instructor at CSM. He started teaching here at night as a hobby, and became a full-time member of the Mathematics faculty in 1969. Now he says that he's "found his place in life" and plans to continue teaching indefinitely. He'll be finishing work on a Ph.D. in the summer of 1979 and hopes to develop more ways of using computers as teaching tools. "They'll never replace teachers," he says, "but I think the trend will be going more and more in that direction."



# Grades and Scholarships

## Units Work and Credit

A "unit" of college credit normally represents one hour weekly of lecture or 3 hours of laboratory, or similar scheduled activity, during one semester.

## Grades and Grade Points

Once a subject has been made a part of a student's program of attendance, the record for the subject will be reported to the Office of Admissions and Records by one of the following symbols:

A—Excellent	4 grade points per unit
B—Above average	3 grade points per unit
C—Average	2 grade points per unit
D—Passing; below average	1 grade point per unit
*CR—Credit	0 grade points per unit
*NC—No credit	0 grade points per unit
F—Failed	0 grade points per unit
Inc—Incomplete	0 grade points per unit
W—Withdrawn	0 grade points per unit

\*Used in courses in which grades of only "credit" or "no-credit" are given. The units for credit count as units completed. No-credit means the student is not charged with units attempted and is not credited with units completed.

A grade of "Incomplete" may be given in case of absence from required examinations, or in case of circumstances which warrant granting the student additional time in which to complete the work of the course. A student reported "Inc." in any subject must remove the deficiency by the end of the next semester. Additional time may be provided upon approval of the instructor and the Director of Admissions and Records; however, the extension of time may not exceed one calendar year from the date of issuance of the "Inc." The units for "Inc." grade are not charged as units attempted and do not enter into the computation of grade-point average.

A grade of "W" (Withdrawn from class) indicates that the subject has been canceled from the student's study list. No credit can be counted in subjects for which a "W" is recorded. Please see section on program changes (page 39.) Withdrawal from class will not be authorized once final examinations have begun.

The GPA (grade point average) is determined by dividing the total number of grade points earned by the total number of units attempted. (Please see page 45 under "Academic Policies.")

## Final Examinations

Final examinations are required and will be given in accordance with the final examination schedule. The final examination schedule is printed in the class schedule so that students may plan their programs to avoid conflicts or an extensive load.

## Grade Reports

A student is held responsible for his own academic progress. Grade reports are available to each student at mid-semester. Following final examinations at the end of the semester, the student is sent the report of his final grades, which serve as the basis for computing the student's standing.

## Transcripts

Official transcripts will be sent to employers, colleges and other institutions upon written request by the student. Only courses taken at College of San Mateo will appear on the transcript. Transcripts from high school and other colleges will be forwarded.

Each student is entitled to two free transcripts. Additional copies will cost \$1 each.

## Scholarship Honors

College of San Mateo is affiliated with the California Community College Honor Scholarship Society, Alpha Gamma Sigma. The local chapter is the Eta Chapter. Students carrying 12 units or more of graded classes in a semester and who achieve a GPA of 3.30 or higher in their semester course work will be recognized at end of the semester by inclusion on the Dean's List. Permanent Membership in Alpha Gamma Sigma is awarded upon graduation if the student has maintained a cumulative GPA of 3.5 or higher for all recognized college work.

## Honors at Graduation

Honors are awarded to students at graduation based upon cumulative GPA as follows:

3.30—3.49	Graduation with Honors
3.50—4.00	Graduation with High Honors

# Journal of Applied Behavior Analysis

**Volume 14**  
Number 1  
February 1981

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## Academic Policy

(Grade Alleviation)

### Grade-Point Deficiency

The Academic Standards Policy of College of San Mateo is based on a cumulative grade-point average of "C," the minimum standard of progress toward graduation or transfer.

All units and grade points are on a cumulative basis. At all times, a student must maintain a cumulative grade-point total that is double the total units undertaken (C average). (Example: If a student undertakes 12 units in one semester and 15 units in a second semester, the cumulative units are 27, requiring a grade-point total of 54.)

Any grade-point total less than twice the attempted units is regarded as deficient.

### Probation

A student will be placed on probation under the following criteria:

- 1) **Academic Probation based on grade point deficiency**  
His/her grade point deficiency amounts to 12 or more grade points.

OR

- 2) **Probation based on failure to maintain satisfactory progress**

He/she is enrolled in more than 9 units, and does not receive passing grades in at least 60% of those units in which he/she was enrolled on or after Monday of the fourth week of the semester. (Note: Passing grades — A, B, C, D, Cr; Unsatisfactory grades — W, F, Ncr, Inc.)

These two probationary criteria will be applied in such a manner that a student may be placed on probation under either or both systems and subsequently be dismissed under either or both systems. The satisfactory progress standard will not be applicable, however, if the student completes the official Leave of Absence Procedure. (See page 49.)

A probationary student may continue in school, but a further deficiency of any kind will result in dismissal.

A probationary student may petition the Standards Committee for removal of probationary status if it has resulted from unusual circumstances beyond the students control.

### Dismissal

A student on probation who incurs a further deficiency in grade points or who fails to maintain satisfactory progress as defined above, will be dismissed and must ordinarily remain out of the College of San Mateo, day and evening classes, for one semester before petitioning the Standards Committee for reinstatement.

A dismissed student may present a written appeal to the Standards Committee requesting immediate reinstatement if dismissal has resulted from unusual circumstances. A registered student making such an appeal should remain in classes until the decision of the Standards Committee is made.

### Academic Renewal Policy

A maximum of two semesters (or three quarters) and one summer session of work which is substandard, that is less than 2.0 grade point average, and not reflective of the student's present scholastic level of performance may be alleviated and disregarded in the computation of grade point averages under the following conditions:

1. A period of at least three years must have elapsed since the work to be alleviated was completed.
2. Students seeking alleviation must have completed nine (9) units of work with a 3.5 cumulative grade point average, or fifteen (15) units with a 3.0 cumulative grade point average, or twenty-one (21) units with a 2.5 cumulative grade point average, or twenty-four (24) units with a cumulative 2.0 grade point average since the work to be alleviated was completed.
3. A semester or quarter is defined as all work attempted during a single academic term. The terms need not be consecutive.
4. The substandard work to be alleviated may have been completed at any college or university. However, the work upon which the application for alleviation is based must be completed at the College of San Mateo.

It should be noted that the Academic Renewal Policy will be applied only when alleviation of prior work is necessary to qualify a student for admission to a program, for transfer to another institution, for completion of a certificate program, or for graduation from the college.

Determination of the applicability of this policy will be made only following formal application to the Office of Admissions and Records. When academic work is alleviated, the permanent record shall be appropriately annotated in a manner to insure that all entries are legible and that a true and complete record is maintained.

### Attendance Regulations

Regular attendance in class and laboratory sessions is an obligation assumed by every student at the time of registration. By being absent from class, the student misses both the content of the particular session and the continuity of the course as developed in a single period of work. When a student's failure to attend class places her/his success in jeopardy, the instructor may drop the student from class.

In all cases it is the instructor's prerogative to determine when absences are excessive. An instructor has the right to drop a student from class when such absences jeopardize the student's opportunity to successfully complete the class work or to benefit from the instruction. A guideline used by many

instructors in that excessive absence is represented by twice the number of hours the class meets in one week for semester-long classes and one-ninth of scheduled meetings in classes which meet for less than a full semester.

Absence means non-attendance, and includes non-attendance for illness or personal emergency. Absences due to a student's participation in a school-sponsored activity should be considered as "excused" absences, but it is the student's responsibility to notify the instructor in advance of the absence, and the student is responsible for all work missed. It is noted again that it is the instructor's prerogative to determine when such absences are excessive.

Any student dropped from a class because of this regulation may appeal in writing to the Attendance Committee within five school calendar days of such drop if there are extenuating circumstances. A student making such an appeal may, with the permission of the instructor, remain in class until the decision of the Attendance Committee is reached. The Attendance Committee will make a recommendation to the instructor after considering such an appeal.

### **Policy of Nondiscrimination**

College of San Mateo is committed to equal opportunity regardless of sex, race, color, religion or national origin, for admission to the College, enrollment in classes, student services, activities, financial aid, and employment in accordance with provisions of Title VI of the 1964 Civil Rights Act and Title IX of the Educational Amendments of 1972 (45 CRF 86).

Inquiries concerning these laws and policies may be directed to the Director of Special Programs and Services, Administration Building, Room 209, telephone 547-6181.

It is important that students, staff, and all others associated with the College understand the importance of reporting concerns about possible violations of this policy. The College's commitment to equal opportunity demands full investigation of possible violations and an opportunity for a fair and impartial hearing on any matter relating to these laws and policies.

Any person claiming grievance because of alleged violations of Title VI of the 1964 Civil Rights Act and Title IX of the Educational Amendments of 1972 (45 CRF 86) should contact the Director of Special Programs and Services, Administration Building, Room, 209, telephone 574-6181.

All grievances will be reviewed in terms of Title VI and Title IX law, and persons involved will be advised of the provisions of the law and their legal rights. If necessary, assistance in the preparation of written statements will be given. The office will take up grievances with the appropriate parties and will follow the progress of each grievance. If normal channels are not available or fail to meet legal requirements, the necessary action will be initiated. The office will maintain a record of all Title VI and Title IX grievances, and will report to the Affirmative Action Committee the general nature of such grievances and progress toward their resolution.

### **Open Enrollment**

Every course offered at College of San Mateo (unless specifically exempted by legal statute) is open for enrollment and participation by any person who has been admitted to the college and who meets the prerequisites of the course.

### **Transfer Students**

A transfer student who enters with a deficiency of 12 or more grade points will be dismissed upon incurring a grade-point deficiency in any subsequent semester. However, a transfer student who has not increased the total deficiency after admission to College of San Mateo may petition the Standards Committee for permission to continue in college. A registered student making such an appeal should remain in classes until the committee has reached a decision.

### **Credit By Examination Policy**

A regularly enrolled student may be permitted to obtain credit by examination in subject matter fields in which he/she is especially qualified through previous training for which credit or advanced placement has not been given previously.

A student will not be permitted to challenge a course for credit by examination until he/she has completed a minimum of 12 units with a 2.5 grade-point average. Challenge is limited to those courses recommended by the academic divisions and approved by the Office of Instruction. The examination may include written, oral, or skill tests or a combination that the student has essentially the same knowledge and skills as a student who successfully completes the course. The grade received will be entered on the student's record.

Letters requesting to challenge a course for credit by examination must be submitted to the Academic Review Committee, Office of Admissions and Records.

### **Academic Review Committee**

The Academic Review Committee considers requests for waivers and/or exceptions with respect to academic policies. Inquiries should be directed to the Director of Admissions and Records.

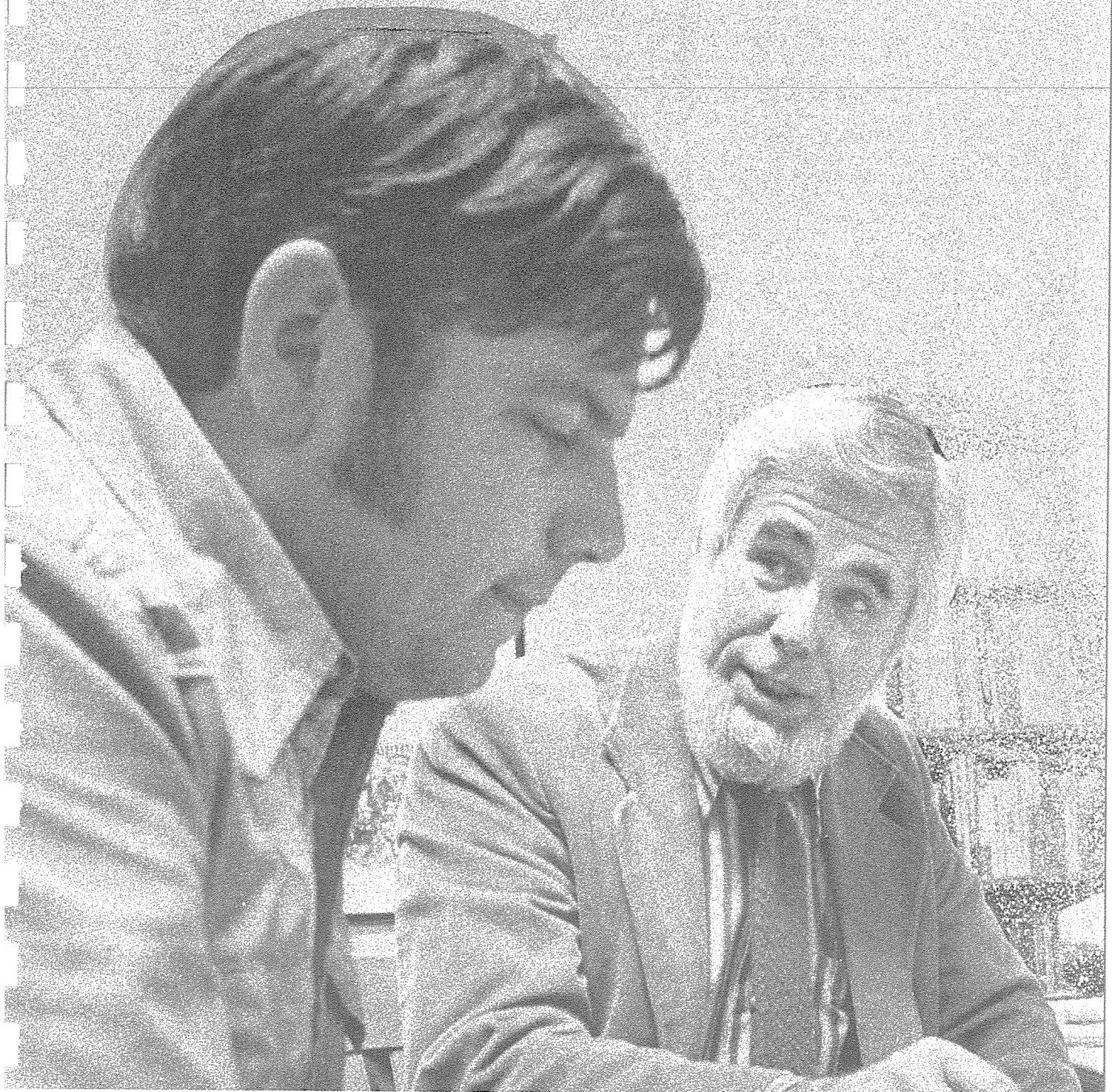
### **Repeated Course Policy**

A student who has received a grade of D, F, or Inc. in a course taken at a college of the San Mateo Community College District may, with authorization, repeat the course at the College of San Mateo. On petition to the Director of Admissions and Records, the student may have the grade of the repeated course used in computation of the grade point average. Course repetition completed at any other accredited institution may be honored and students may apply for such consideration to the Director of Admissions and Records. In no case will the unit value of a course be counted more than once. Courses in which the student has received grades other than those specified above are not subject to the provisions of the policy.



# Student Responsibilities

## Student Services





## Focus on Faculty . . .

### **RICHARD PHIPPS**

CSM's Student population has been changing for the past few years. In addition to "traditional" students who come here straight from high school to work towards a degree or career program certificate, there are more and more older students who have re-thought their personal and career goals and are continuing (or beginning) their education to meet these new objectives.

This changing student body presents new challenges to the College's counselors, who must respond to an increasingly diverse set of needs. To meet those needs, CSM's Richard Phipps, along with counselors from Skyline and Canada Colleges, is working on a special Board of Trustees project designed to help students identify their educational goals and plan an appropriate program of study. "Meeting the Needs of Non-Traditional Students: A New Personal Development Program" will result in a series of Guidance courses geared specifically towards helping these new students make the most of their college experience. The project is a "natural" for Phipps, who throughout his 15 years at CSM, has been instrumental in developing Guidance courses and improving counseling services.

According to Aline Fountain, Director of Counseling Services at the College, Phipps is "one of our most effective counselors—he's extremely good with students, and he's always been very actively involved in new activities and programs." In addition to the special Board of Trustees project, Phipps has been working to establish a "Men's Re-Entry Program" similar to the support program and series of special Guidance classes available through the Women's Re-Entry Program. "I see a need for a similar program for men," he says. "We're seeing so many men who are returning to school for job re-training and are coping with a lot of changes and problems. I think it's important to allow them an opportunity to explore new alternatives and values and to look at the sex-role stereotypes that have men 'stuck' as well as women."

Phipps came to CSM as a Political Science instructor after 10 years' experience teaching junior high and high school classes, plus a teaching Fulbright fellowship in Denmark, where he taught American Civilization courses. He has continued to teach Political Science classes here and has served as the head of that department, though he added counseling duties to his assignment shortly after he was hired in 1963. Now he spends half his time counseling students, which means he's assigned between 150 and 200 counselees every semester.

Phipps says he enjoys the challenges of counseling and the variety of experiences he encounters, which provide a nice balance to his teaching duties. "There hasn't been much chance to get bored," he laughs, "I always seem to come up with something new to keep me busy."

## Student Responsibilities

### Conduct

The principle of personal honor is the basis for student conduct. The honor system rests on the sincere belief that the college student is mature and self-respecting, and can be relied upon to act as a responsible and ethical member of society. Each individual has the obligation to observe the college code of rules and regulations.

Social or other functions using the name of the college are thereby identified as college functions and become subject to the same high standards of conduct and of supervision, whether conducted on or off the campus.

Social or other functions for which no college staff member is listed as a sponsor will not be considered school functions. Further, no off-campus organizations may use the college name or imply college sponsorship in any publicity or other information.

Any student may be suspended and/or recommended for expulsion if her/his actions on campus are disruptive of orderly and peaceful conduct of the college or are in flagrant violation of college rules and regulations. In case of disciplinary action, the student will have access to established appeals procedures.

### Student Grievances and Appeals

Students are encouraged to pursue their academic studies and become involved in other college sponsored activities that promote their intellectual growth and personal development. The college is committed to the concept that, in the pursuit of these ends, the student should be free of unfair and improper actions on the part of any member of the academic community. If, at any time, a student feels that he/she has been subject to unjust actions, or denied his/her rights, redress can be sought through the filing of an appeal or grievance. Detailed information is provided in the **Student Guide**, which is available in the Student Activity Office. For further information concerning any aspect of student grievances or rights of appeal, students should contact the Office of the Dean of Student Services.

### Fines

Fines are assessed for failure to comply promptly with library and other campus regulations, and students are

required to pay for careless or unnecessary damage to college property. Students who are delinquent in their financial obligations to the college may not receive grades, reports or other records of their work until such delinquencies have been adjusted to the satisfaction of the college authorities.

### Secret Organizations

Sororities and fraternities and other secret organizations are banned under the Education Code of the State of California. It is the policy of College of San Mateo to dismiss students when their membership in such organizations becomes known.

### Emergency Leave of Absence

Leaves of absence of less than one week need not be reported to the college.

Students who will be absent from any class or classes for one week or longer for any health reason should request emergency leave from the Student Health Center. Students should report to the Health Center for a clearance before returning to classes.

Students who will be absent from any class or classes for one week or longer for other personal emergencies should request an emergency leave from the Director of Counseling Services.

If a medical or personal emergency requires absence of as much as two weeks, the student should consult with a counselor/advisor to review his/her program and the advisability of continuing in classes.

### Permanent Leave of Absence

Students who must withdraw from **all** of their day classes after registration must obtain an Application for Permanent Leave of Absence from their assigned counselor/advisor. Part-time students (taking nine units or less) may obtain this petition from the Drop-In Advisor, Bldg. 1-102. The completed form must be returned within five college days to the Student Services Office, Building 1-207. Failure to comply with this procedure may result in grades of "F." (See "Program Changes" on page 39.)



*Rose Marie Beuttler (seated second from the left) coordinates the Women's Re-Entry Program and offers support services and special classes for women who are returning to school.*



## Student Services

### STUDENT SERVICES AND ADMINISTRATIVE AFFAIRS

**Dean of Student Services**  
Allan R. Brown

**Director of Special Programs and Services**  
Philip D. Morse

**Director of Admissions and Records**  
Herbert R. Warne

**Director of Counseling Services**  
Aline Fountain

**Director of College Readiness Program**  
Jackman LeBlanc

**Assistant Registrar**  
Edith N. Hopkins

**Career Development Center**  
(To be appointed)

**Coordinator of Security**  
Harold S. Bogan

**Coordinator of Student Activities**  
Rusty Wilson

**Coordinator of Veteran Affairs**  
Steven N. Morehouse

**Financial Aids Officer**  
Leatha E. Webster

**Foreign Student Advisor**  
Gerald J. Frasseti

**Health Services**  
Leah Tarleton

**Permanent Resident Student Advisor**  
(*Immigrant Students*)  
Carl A. Wagner

**Physically Handicapped Enabler**  
Jacqueline Rose

**Psychological Services**  
Charles M. Devonshire  
Anita Fisher  
Noel W. Keys  
James Roach

**Speech Pathologist**  
Mary Herman

**Student Center**  
Bookstore Manager—Andra Morgan  
Cafeteria Manager—To be appointed

**Student Placement**  
Jan Arreola

### ACADEMIC ADVISORS

**Administration of Justice**  
Kern Richmond

**Aeronautics**  
Dale W. Blust  
H. Sanford Gum

**Architecture**  
Ernest L. Multhaup

**Art**  
Jack Daniels

**Business Administration**  
Daniel Berry  
John Cron

**Business**  
John Cron  
Tom George  
Marcia A. Mahood  
Rosemary Piserchio  
Elizabeth Wittwer

**College Readiness Program**  
Elizabeth Nakagawa (on leave)  
Adrian Orozco  
Debbie Upshaw

**Consumer Arts and Sciences**

Mamie E. Ireson

**Cosmetology**

Jo Ann C. Rock

**Data Processing**

Douglas B. Crawford

**Dental Assisting**

Elizabeth Witzel

**Drafting Technology**

Dean Chowenhill

H. Sanford Gum

Clois A. McClure

**Education**

Eric Gattmann

**Electronics Technology**

George Angerbauer

George Bramlett

**Engineering**

Douglas B. Crawford

Ernest L. Multhaup

**General Education**

*(Liberal Arts, General Education, No Major Program, Special Program, Undecided Major Program, Career Specialists)*

J. Kyle Clinkscates

Eric Gattmann

Carol A. Heitz

Robert S. Howe

Alan A. Hynding

Carolyn Ramsey

Jo Ann Rock

**Language Arts**

*(Dramatics, Radio, Telecommunications, Speech, English, Foreign Languages, Journalism)*

Henry Cordes

Dan Odum

**Life Sciences**

Mary Jane Baker

George Blitz

J. Kyle Clinkscates

Roland Fark

**Manufacturing Technology**

Chauncey J. Martin

Clois A. McClure

**Mathematics**

Douglas B. Crawford

Ernest L. Multhaup

**Music**

R. Galen Marshall

**Nursing**

Frances Henderson

**Physical Education**

Carol A. Heitz

Herbert H. Hudson

**Physical Sciences**

J. Kyle Clinkscates

Michael Chriss

William Glen

**Real Estate**

Thomas George

**Social Sciences**

Eric Gattmann

Anita Fisher

Alan A. Hynding

Musonda Mantabe

Richard S. Phipps

Kern Richmond

**Technical Illustration, Machine Tool Technology,  
Welding Technology**

Chauncey J. Martin

Clois A. McClure

Dean Chowenhill

**Veteran Affairs**

Steven N. Morehouse

**Women's Re-entry Program**

Rose Marie Beuttler

**Program Planning and Counseling**

Certain faculty members are officially designated as counselor-advisors. Each regular student will be assigned a counselor-advisor who is a specialist in a field. Counselors are available by appointment during the registration period and throughout the academic year to consult with students. Counselor-advisors assist students in planning programs of study; they must approve the final program for each semester and must be consulted about changes. However, each student is responsible for fulfilling his/her own graduation and/or transfer requirements.

The Office of Student Services will make appointments for interviews with counselor-advisors for the purpose of assisting students in the selection of a course of study with relation to a career or profession and to complete registration.

All faculty members are an important part of the college's advising program. Students should feel free to approach counselor-advisors and other faculty members for information.

The Drop-In Counseling/Advising Office is located in Building 1, Room 201 and is available to part-time day and evening students and members of the community who wish assistance with program planning, counseling, and academic advising.

## Health Service

The Health Center is in Room 226 of the Administration Building. It is staffed by a public health nurse and a receptionist-secretary. Services provided include first aid nursing evaluation, health counseling, rest, referral to physicians, clinics or community agencies, arrangement for emergency transportation, hearing tests, vision screening tests, reading of TB skin tests, blood pressure reading, etc. Medical insurance application, referral and claim forms, where applicable, are available.

Absences of 5 days to 2 weeks for medical reasons should be reported to the Health Center by the student so instructors can be notified. Upon return, the student should obtain a clearance slip from the Health Center.

All entering students are required to complete a health card as part of the application. It is important that the information be completed in case of emergency.

An ill or injured person who is unable to communicate will be sent to the emergency room at Chope Community Hospital if the student's health card does not specify a physician or other hospital, and if the family cannot be reached.

## Student Health Insurance

The college offers accident and health insurance coverage to its students in two parts. Every student enrolled is required to pay a Health Services fee each semester. In addition to the services described above, the fee provides coverage by an emergency sickness and accident insurance program applicable *when the student is on campus or at a school sponsored event.*

In addition, the college has endorsed a voluntary health insurance program for students who are not covered by their own or their parents' policies. The voluntary policy provides for 24 hours, around-the-clock protection at an advantageous group rate. Detailed information is available in the Student Health Center.

## Psychological Services

Psychological counseling is available to all registered students at the college. The Psychological Service Center provides individual, confidential counseling and attempts to help the student solve personal, emotional and interpersonal problems. The staff will also try to assist students in reducing the stumbling blocks that may prevent them from fully developing their potential and obtaining maximum benefit from

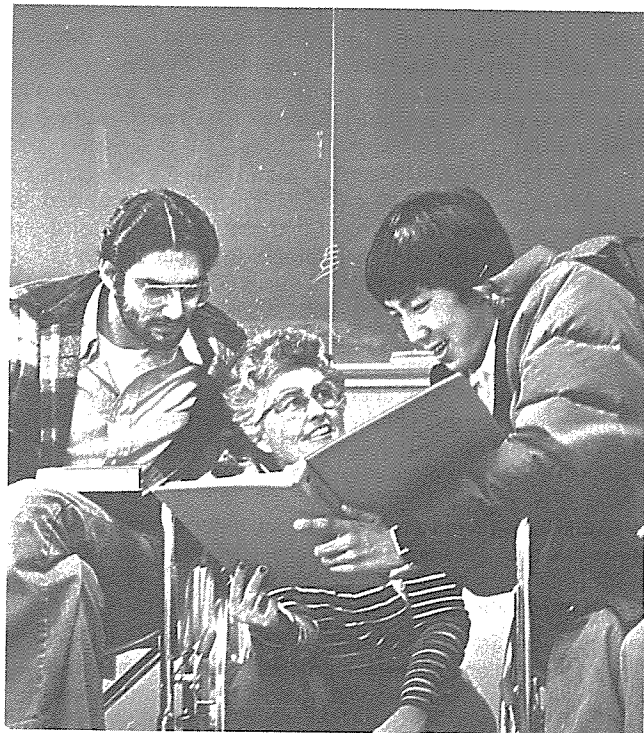
their college experience. Counseling is available in small groups on a semester or shorter basis. For students needing special attention or assistance, a referral may be made to a community mental health clinic, social agency or private therapist.

Appointments may be made with Psychological Services staff, in person, by telephone, through a counselor or the Student Health Center.

## Testing

The Office of Student Services and the Career Development Center maintain a service in personal and vocational testing which is available to all registered students. Through this service, students may receive assistance in assessing their aptitudes and interests so that they may better plan their educational and vocational goals.

Special personalized testing is also available through the series of Guidance classes. Many of these Guidance classes are designed as 6- and 8-week courses which allow for flexible entry and exit. (See course descriptions on page 156). Included in these classes are thorough explanations and interpretations of tests taken at entrance and additional tests to help the student appraise aptitudes, interests, personal adjustment, and special abilities. These tests are useful to the student to verify or make effective educational and vocational plans.



*Handicapped students can take advantage of a variety of special services provided by Jackie Rose, CSM's Enabler.*

## Career Development Center

The Career Development Center at CSM, located in the lower level of the library, offers a variety of services and programs to students and members of the community designed to assist individuals in career exploration. Several short and semester-long courses are offered which assist students in making career choices. Descriptions of individualized and group guidance class offerings are found in the Description of Courses section of this catalog under the heading GUIDANCE.

Students and members of the community are encouraged to visit the Career Development Center, which is open daily from 8:00 to 4:30 p.m. The Center is also open several evenings per week. Please call 574-6571 for information.

## Student Placement Services

The College maintains a placement office to assist students currently enrolled in good standing to secure part-time employment. This service is also available to graduating and former students who wish to secure full-time employment. College personnel are available throughout the day for placement services.

## Financial Aid

The financial aid program at the College of San Mateo is dedicated to the concept that no individual should be denied an education solely for financial reasons. The purpose of the financial aid program is to provide a service to those students who need financial assistance in meeting the basic costs of securing an education. Any student applying for admission to the college who has a financial need for assistance is urged to apply for aid.

The Financial Aid Office administers a program of grants, loans, and employment which may be awarded to qualified students (singly or in various combinations). In addition, we assist and encourage students to apply for California State Scholarships, College Opportunity Grants, Vocational Training Grants, and all other state and local awards.

All awards are based on need; the determination of need is based upon a careful analysis of family income and assets, liabilities, number of children, medical expenses, etc. While the determination of the student's financial need is geared mainly to the student's educational and vocational career plans, it is recognized that frequently the student may have personal considerations that play an important part in this determination. Each application is evaluated on an individual basis with all special and extenuating circumstances taken into consideration.

Students are advised that determination of eligibility is approximately an eight-week process from the time the application is determined complete. Students are strongly encouraged to observe application deadlines. Applications received after the established deadline will be considered subject to the availability of funds.

For detailed information regarding specific assistance programs, students should see the Financial Aid Officer, in Building 1, second floor, Room 221.

College of San Mateo participates in federal and state scholarship, loan, grant and work-study programs. Work-study placement is available in both on-campus and community jobs related to the student course of study. In addition, the San Mateo College Foundation administers funds from private sources which are available to students as scholarships, loans and grants.

Students must be enrolled in 12 units to be eligible. For detailed information and application for financial aids, students should contact the Financial Aids Officer, Administration Building, Room 221. Scholarship applications are available through the office of the Director of Special Programs and Services in the Administration Building. Small emergency loan applications are available through the office of the Director of Counseling Services, in the Administration Building.

## College Readiness Program

The College Readiness Program is a multi-cultural program designed primarily to assist Third World Students in their pursuits of higher education. This program provides supportive counseling services (academic, financial, personal, vocational and tutorial), as well as cultural enrichment.

The essential requirement for participation is that each student have his/her academic folder on file at the CRP office, and receive counseling from the counselors assigned to the program.

Counselors are multi-cultural people, and can easily identify with and understand their advisees. Counselors attempt to build relationships which are warm and real.

The offices are located in Building 20, Rooms 107-113. All personnel can be contacted at 574-6154.

## Learning Center

The Learning Center is designed to help students succeed academically, operating on the principle that those who come to College of San Mateo wanting to learn should be assisted in that endeavor. Students may be referred by teachers and counselors, or just drop in. Tutoring is available as needed and as tutors can be provided. Also offered are discussion groups, programmed learning, and classes, such as Learning Center 97, 98, and 99. Additional information is available by contacting the Learning Center.

## Physically Handicapped Students

Students entering college with physical handicaps who need assistance through tutoring, reader services, mobility help, braille, special parking permits, access to classrooms, orientation to the campus and special arrangements, may contact the Enabler in the Learning Center. Pre-counseling interviews are provided to set up assistance services before the student enrolls in classes.

### Speech Therapy

Students who need special assistance with speech and/or language problems may take advantage of the services offered by professional staff who can provide testing and individual and small group therapy. This program is offered in close cooperation with other services on campus relating to students who have speech needs.

President  
 Vice-President  
 Vice-President for Evening Students

#### SENATORS

Business Division  
 Fine Arts Division  
 Health Occupations Division  
 Language Arts Division  
 Life Science Division

### Veterans' Affairs

The Office of Veterans' Affairs at the College of San Mateo was established by a Federal grant to provide veterans with a wide variety of services necessary to successfully complete an academic career. Eligible veterans have 10 years from the date of separation from active duty to use their educational benefits.

The Office of Veterans' Affairs is located in the Administration Building (Bldg. 1). The office is staffed from 8:00 a.m. to 4:30 p.m., Monday through Friday, and from 6:00 to 9:00 p.m. Tuesday and Wednesday nights.

To initiate VA benefits, report to the VA Clerk (Building 1) and bring: (1) two copies of your DD214 (separation papers); (2) one copy of your marriage/divorce certificate; and (3) copies of birth certificates of children.

Veterans who have previously attended college must have official copies of college transcripts on file in the Office of Admissions and Records. For further information, contact the Office of Veterans' Affairs, 574-6193.

### Women's Re-entry Program

The Women's Re-entry Program is a program designed for women whose education has been postponed or interrupted. Counseling and tutorial assistance are offered, together with a coordinated instructional program at hours convenient to women with school-age children.

Tutoring in a wide range of subjects is available for women who need such assistance. Instruction is provided in basic skills such as text reading, paper writing, use of the library, note taking, and test taking. Students desiring further information should visit the Re-entry Information Center, Bldg. 15, Room 165, or call 574-6440.

### Associated Students

The Student Government at the College of San Mateo is composed of two major bodies: the Student Senate and the Student Programs Board. The Senate is charged with the responsibility of providing student input into the college decision-making process, and of assessing and trying to meet student needs. The Senate is organized along college divisional lines and Senators are elected by students majoring in a specific divisional area, i.e., political science majors vote for the Social Science Division Senator. The following are the Divisions from which Senators are elected and other positions on the ASCSM Student Senate:



Math/Science Division  
Social Science Division  
Special Students Division  
Technical Division  
Unclassified Division  
Judicial Council (5)

The Student Programs Board is charged with the responsibility of providing activities and services for the CSM student body. It is organized into ten committees which have responsibility for programming in that specific area:

Contemporary Entertainment Committee  
Performing Arts and Lectures Committee  
Visual Arts Committee  
Outdoor Recreation Committee  
Innovative Programming Committee  
Minority Programming Committee  
Art and Exhibits Committee  
Recreation/Games Area Committee  
Innovative Services Committee  
Women's Programming Committee

## Student Associations

### Student Senate Advisors

Philip Morse, Rusty Wilson

### Student Programs Board Advisor

Rusty Wilson

### Judicial Council Advisor

John Goehler

## Organizations

In order to secure the most from college life, a student should participate in one or more of the many clubs organized within the Associated Students. The clubs listed below offer many and diversified opportunities to students for both social and educational contacts. Each club elects its officers and plans its own program for the semester. How successful it becomes depends largely upon the enthusiasm of its membership. Students are advised to contact the sponsors, whose names appear below, for further details about the club or clubs in which they are interested. Additional information may be obtained by contacting the Student Activities Office.

### Association of Technical Draftsmen

Clois A. McClure

### Alpha Epsilon Rho

Doug Montgomery

### Alpha Eta Rho

Steven Lamont  
Bruce Walters

### Alpha Gamma Sigma

Al Acena

### Bulldog Track Club

Robert Rush

### Ceramics Club

Vince Rascon

### Christian Science Organization

### Collegiate Christian Fellowship

Robert Anderson

### Ecology Action

Greg Davis

### Epsilon Delta

Elizabeth Witzel

### Eta Epsilon

Grace Sonner

### Freestyle

H. Sanford Gum

### Horticulture

Alexander Graham

### International Club

Zelte Crawford

### La Raza

Adrian Orozco

### Organization of Arab Students

Maurice Fitzgerald

### Red Cross

Leah Tarleton

### Samahen

Al Acena

### Ski Club

Rusty Wilson

### Save the Chinese Language

Peter Wang

### Sculpture Club

Ray Lorenzato

## Student Activities Office

The Student Activities Office is located at the north end of the Student Center. It is purposely located in one of the

heaviest student traffic areas on campus. The Student Activities Office is a drop-in type of office and is the place you should come if you have a question regarding any aspect of the college. If the staff can't assist you directly, they will refer you to someone who can. A number of services are provided for students by the Student Activities Office. Among them are:

### Housing

Dormitories and other types of college-sponsored housing are not available at the College of San Mateo. The Student Activities Office maintains an up-to-date listing of housing available in the community. The majority of listings are rooms in private homes, but apartments and houses are sometimes available.

### Student Government and Clubs Information

Information concerning any aspect of student government, student activities or clubs may be obtained in the Student Activities Office. This office provides all of these groups with duplicating and publicity services. The Student Activities Office is also responsible for the supervision of the Recreation/Games Room and the Student Center Lounge.

### Travel Information

A reference library concerning aspects of travel from local to international is maintained in the Student Activities Office. International Student Identification Cards are issued by this office.

### Publications

The following publications are issued by the College of San Mateo:

**The San Matean** — A student newspaper published weekly, serving a two-fold purpose of providing full coverage of activities on campus and of giving experience to journalism students.

**Student Guide** — A manual for students containing information about College of San Mateo, the rules, staff, student organizations and services.

**Pendulum** — A student art and literary magazine published each spring, sponsored by the English Division. Each year the "Pendulum" provides a showcase for the talents of the creative writing and art classes, as well as informative and timely articles by other interested students.

**CSM Bulletin** — A mimeographed publication, prepared and distributed by the Activities Office every Monday and Thursday, announcing activities, new events and items of interest to the faculty and students of the College. The deadline for submission of items for publications is 9:30 a.m. on the preceding day.

**Student Orientation and Self-Help Guide** — A booklet distributed by the Office of Student Services to new students. Designed to assist with preparation for registration, it discusses program planning, choice of classes, use of the schedule of classes and long-term program planning.

### Athletics

The College of San Mateo offers a full program of athletic activities, both intramural and intercollegiate, designed to benefit all interested students. For men and women students who seek competitive activity but lack sufficient time or training for intercollegiate athletics, the intramural program provides the opportunity to engage in a wide variety of team and individual sports. Participants may receive one-half (½) unit of credit each semester by involvement in two 8-week activities. The intramural program is planned on a year-round basis, and it provides an excellent opportunity to broaden and improve recreational knowledge and skills.

The College of San Mateo sponsors intercollegiate sports within the Golden Gate Conference and the Bay Area Colleges Association of Women's Athletics for the benefit of those students interested in team competition. Sports offered are: Baseball, Men's Basketball, Women's Basketball, Cross Country, Women's Tennis, Football, Golf, Women's Softball, Swimming, Tennis, Track, Water Polo, Wrestling, and Women's Volleyball.

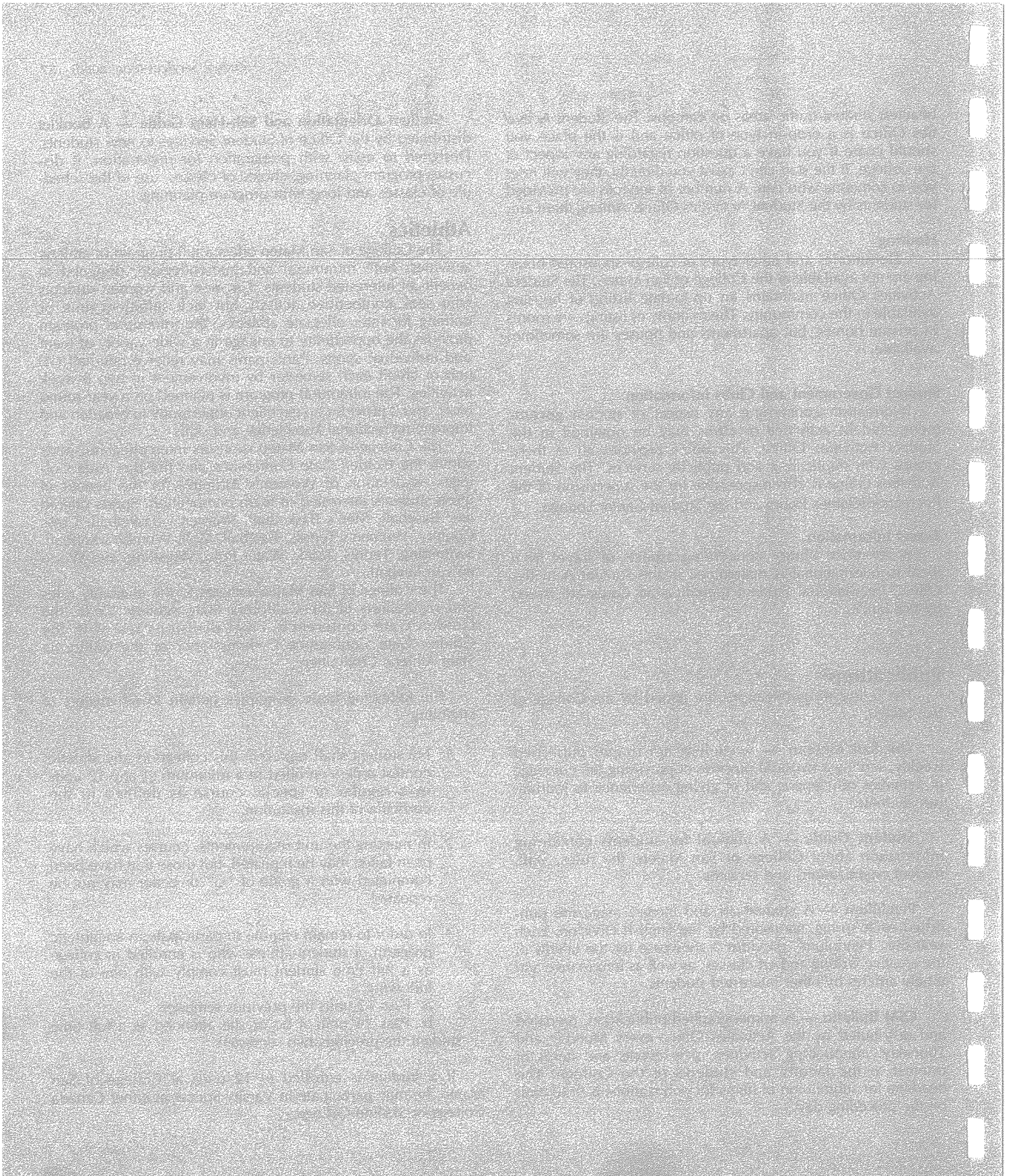
The College of San Mateo adheres to the eligibility rules and regulations of the California State Athletic Code, the Golden Gate Conference. Final decisions rest with the Golden Gate Conference Commissioner or the California State Athletic Committee.

The following basic principles pertain to all matters of eligibility:

1. No student shall represent this college in any athletic contest unless enrolled in a minimum of any 12 units in a regular or special course as defined in the curricula of this institution.
2. In meeting the unit requirements, courses which have been failed may be repeated, but those that have been completed with a grade of "C" or better may not be repeated.
3. In order to remain eligible to participate in an athletic program, a student-athlete who is enrolled in college as a full time student must comply with one of the following:
  - a. Pass 12 units the previous semester
  - b. Pass 24 units if he or she attended as a full time student the previous two semesters.

If a student is enrolled in 12 units at College of San Mateo, he may participate in Varsity Soccer at either Canada College or Skyline College.







# Graduation Requirements



## Focus on Faculty . . .

### DR. PETER WANG

When Dr. Peter Wang talks about microprocessors, the tiny core of modern-day computers, it's with firsthand knowledge and absolute certainty that someday soon microcomputers will become a familiar part of everyday life. Because of the development of the silicon chip, large-scale integrated circuits, and amazing technological advances that have reduced room-sized computers to table-top machines—and promise to miniaturize them even more in the near future—Dr. Wang is sure that it won't be long before an average family can buy an all-purpose home computer for less than a television costs now.

"The microprocessor is the most exciting development of the electronics industry in years, it's going to revolutionize the entire field," he says. "The three major automobile companies are already vying to be the first to computerize a car's operation—I think all cars will be controlled by microcomputers within a few years. And some experts are predicting that by 1980 the average family will have seven to ten different home computers programmed to do things like cook meals, keep track of household supplies, manage the family budget, help make decisions, and, when the work is done, play games." Dr. Wang says that, more than ever, schools will recognize the microcomputer as the most reliable and sophisticated teaching tool available: "The applications are simply endless."

He speaks from his years of experience in the electronics industry (at IBM, UNIVAC, and National Semiconductor) as well as from an extensive academic background. Before coming to College of San Mateo as an Electronics instructor in 1975, he earned Bachelor of Science, Master of Science and doctoral degrees in electrical engineering. Now, in addition to teaching in CSM's Electronics Department, he's working on a special Board of Trustees project to update the College's Electronics curriculum to keep pace with rapid technological advances in the computer industry. When his project is completed later this year, CSM will have a Microprocessor Learning Lab and course materials that will allow Electronics students to learn about this very specialized field and prepare for employment or further study in computer electronics.

"The project is in two parts," he explains. "Half of it will consist of introducing microprocessor topics into the existing program and developing classroom materials. The other half is collecting computer hardware and lab materials so that students can actually apply what they learn." Dr. Wang and co-instructor Robert Shapiro have already built a few microcomputer models with the help of Electronics students, and a course in microprocessors is scheduled to be offered for the first time in 1978-79. Technology Division Director Paul Lin, himself an electronics engineer, sees the project as a major addition to the Electronics program. "There's been a tremendous demand for this kind of instruction—now we'll be able to catch up with what's happening in industry."

Dr. Wang came to CSM almost by accident. He was working at National Semiconductor in nearby Santa Clara when he saw an advertisement for a teaching position and, very spontaneously, "decided to give it a try." He says now that he loves teaching and plans to continue his academic career indefinitely. When he's not teaching, he writes scripts, participates in a Chinese community theatre group in San Francisco, and is a part-time filmmaker—one of his films was shown at the 1976 San Francisco International Film Festival. He and his wife, Shirley, live in San Francisco.

# Graduation Requirements

## A.A./A.S. Degree Requirements

Graduation from College of San Mateo with the Associate in Arts or Science degree is based upon the completion of 60 units of lower-division college-level work, including the requirements A. through E. listed below. An application for the degree must be filed in the Office of the Director of Admissions and Records during the last semester of attendance (refer to calendar for the college year for deadline).

### A. Residence

Either 48 units of the 60 units required or the last 12 units must be completed at the College of San Mateo.

### B. Scholarship

A minimum grade point average of 2.0 in the last 60 units, and a minimum grade point average 2.0 in courses taken at the College of San Mateo and submitted as part of the 60 units.

### C. Major

A minimum of 18 units from a list of courses specified for the major by the division involved. These 18 units are exclusive of any units offered in satisfaction of any other A.A. or A.S. degree requirement.

A division may require more than 18 units for a given major. The additional units may, if appropriate, be used to satisfy other A.A. or A.S. degree requirements.

### D. General Education

General Education introduces the student to areas of study that develop breadth of outlook and contribute to a balanced educational development. The courses are complementary to, but different in emphasis from, the specialized training one receives for a job, a profession or a particular field of study.

#### 1. AMERICAN HISTORY AND INSTITUTIONS, CALIFORNIA STATE AND LOCAL GOVERNMENT

This requirement may be satisfied in three different ways:

- by completing either Political Science 25: National, State and Local Government (5 units), or, for foreign students only, Political Science 27; American Society (5 units); or
- by completing one of the options in each of the groups listed below; or
- by demonstrating equivalent knowledge through examinations acceptable to the Social Science Division and the Office of Instruction.

Courses used to satisfy this requirement may also be used, if appropriate, to satisfy requirements listed under 5b, Social Sciences.

#### Group 1—American History and Institutions

- History 17a-17b—United States History (6 units), or
- Political Science 7, 9, 21, 22, 28 or 30 (3 units), or
- History 4a-4c—Western Civilization (6 units), or
- History 4b-4c, Western Civilization (6 units), or
- History 17a or 17b plus any one of the following 3-unit history courses:
  - Economic History (3)
  - American Foreign Policy (3)
  - The American West (3)
  - 20th Century American History (3)
  - Women in American History (3)
  - The American Labor Movement (3)
  - The South, Old and New in American History (3)
  - The Afro-American in U.S. History (3)
  - Civil War and Reconstruction (3)
- History 99—Historical Geography (3), or
- History 50—American History and Current World Affairs (3)

#### Group 2 — California State and Local Government

- Political Science 23 — State and Local Government (2 units), or
- Political Science 12 — State and Urban Government (3 units), or
- History 21—History of San Mateo County (3 units), or
- History 22—California History (3 units), or
- Sociology 12—Urban Development (3 units)
- Social Science 10a to 10e—California, an Interdisciplinary Approach to Selected Topics (2-3)

#### 2. ENGLISH

Two semester courses (6 units) are required. One of these shall be a composition course (English A, 61 or 11) and the other shall be selected from the following list. Credit for English 11 may be earned by those students who can demonstrate equivalent knowledge through examinations acceptable to the Language Arts Division and the Office of Instruction. Courses used to satisfy this requirement may be used, if appropriate, to satisfy requirements 5c and 5d.

English: A, 2, 3, 9a-9b, 11, 12, 13, 14, 15a, 15b, 16a, 16b, 20, 21, 22, 23, 24, 25, 26, 27, 29, 30, 31a, 31b, 42a, 42b, 43, 46a, 46b, 48, \*57a, \*57b, 61, 62, 63, 65, 75.

Speech: 1a, 2a-2b, 10, 33, \*57a-57b.

*\*For non-native speakers.*

#### 3. HEALTH SCIENCE

Two units of Health Science are required (Health Science 1 (2 units) or two classes selected from Health Science 2a-2i, 9, 11); however, the requirement may be waived for qualified students who demonstrate equivalent knowledge through an examination acceptable to the Math/Science Division and the Office of Instruction.

## 4. PHYSICAL EDUCATION REQUIREMENT

Students must complete two semester-long activity courses in Physical Education (not taken concurrently), unless excused, to complete the requirements for the Associate in Arts or Associate in Science degree.

Note also that, in accordance with policy adopted by the Board of Trustees, the requirement may be waived for students in one of the following categories:

- a. Graduates of community colleges or other colleges and universities.
- b. Persons enrolled in Continuing Education classes (i.e., those who complete in such classes at least 60% of the courses taken at this college in fulfillment of A.A./A.S. degree).
- c. Veterans with one or more years of active service.
- d. Persons excused for medical reasons.

Students wishing to request a waiver for any reason not specifically provided for above, may petition for consideration through regularly established college procedures. Inquiries should be directed to the Office of Admissions and Records.

## 5. ADDITIONAL

A minimum of 15 units with at least 3 units in each of the following areas, a, b, c, and d is required.

## a. Natural Sciences (at least 3 units)

## PHYSICAL SCIENCE

**Astronomy** 1, 10, 15, 16  
**Chemistry** 1a, 1b, 5, 7, 10, 12a, 12b, 21-27\*, 30a, 30b, 51  
**Consumer Arts and Sciences** 22  
**Electronics Technology** 10  
**Geography** 1a  
**Geology** 1a, 1b, 6, 10  
**Meteorology** 1, 10  
**Oceanography** 10  
**Physical Science** 10  
**Physics** 2a, 2b, 4a, 4b, 4c, 10  
**Technology** 71

## LIFE SCIENCE

**Anthropology** 1  
**Biology** 1, 2, 3, 4, 5, 7, 8, 9, 11, 14, 15, 16, 21, 22, 23, 24, 25, 26, 27, 30, 32, 33, 37, 40, 41, 42  
**Consumer Arts and Sciences** 9  
**Horticulture** 95a, 95b, 115, 118  
**Paleontology** 1

\*For the purpose of this requirement, three one-unit courses from Chemistry 21-27 are considered the equivalent of one course.

## b. Social Science (at least 3 units)

**Anthropology** 2, 3, 4, 8, 18  
**Business** 8a, 8b  
**Consumer Arts and Sciences** 45  
**Economics** 1a, 1b, 10, 11, 12, 15, 20a, 20b, 20c  
**Ethnic Studies** 1a, 1b, 3, 4, 5, 6a, 6b, 7, 8, 14, 16, 18, 20, 25, 33a, 33b, 46  
**Geography** 1b, 4, 5a, 5b, 6, 99

**History** 4a, 4b, 4c, 5, 6a, 6b, 8a, 8b, 11, 12, 17a, 17b, 20a, 20b, 21, 22, 24, 25, 26, 28, 30, 32, 33, 35, 44, 45, 46, 50, 99

**Labor Studies** 10, 11, 12a, 15, 20

**Management** 65

**Political Science** 1, 2, 3, 5, 7, 9, 12, 18, 21, 22, 23, 25, 27, 28, 30, 39

**Psychology** 1a, 1b, 3, 4, 5, 6, 10, 13, 14, 28, 33, 34, 39, 40

**Social Science** 10a-10e, 20, 33a, 33b

**Sociology** 1, 2, 3, 4, 6, 12, 16, 40a, 40b

## c. Humanities (at least 3 units)

## Architecture 10

**Art** 1a, 1b, 1c, 1d, 10a, 10b, 40, 68a, 68b, 85a, 85b

**Drama** 1a, 1b, 2a, 2b, 10

**English** 12, 16a, 16b, 20, 21, 22, 23, 24, 25, 26, 27, 29, 30, 31a, 31b, 42a, 42b, 43, 46a, 46b, 75

**Ethnic Studies** 11, 12, 15, 17, 41, 42, 43, 44, 45

**Fine Arts** 16a, 16b

**French** 4, 25a, 25b, 30

**German** 4, 25a, 25b, 30

**Humanities** 1, 2, 25

**Music** 6, 7, 8, 9

**Philosophy** 1, 6a, 6b, 20a, 20b, 20c, 23, 24a, 24b, 35, 37

**Spanish** 4, 25a, 25b, 29, 30

**Speech** 2a, 2b

## d. Learning Skills (at least 3 units)

**Business** 35, 50, 51, 56, 66, 84, 91, 93, 134

**Bus. Administration** 1a

**Data Processing** 50, 53a, 54, 56

**Drafting Technology** 51a, 51b

**Economics** 2

**English** A, 2, 3, 9a, 9b, 11, 13, 14, 15a, 15b, 57a, 57b, 61, 63, 65, 67

**Fine Arts** 15a, 15b

**French** 1, 1a, 1b, 2, 2a, 2b, 3, 100a, 100b, 100c, 100d

**German** 1, 1a, 1b, 2, 2a, 2b, 3, 100a, 100b, 100c, 100d

**Italian** 100a, 100b, 100c, 100d

**Japanese** 1, 1a, 1b, 2, 2a, 2b

**Journalism** 2, 15, 16

**Electronics Technology** 51

**Machine Tool Technology** 100

**Mathematics** 1, 2, 3, 4, 5, 6, 7, 10, 11, 11a, 11b, 12, 13, 16, 17, 19, 20, 21, 22, 23a, 23b, 24a, 24b, 25, 27, 28, 30, 31, 32, 33, 34, 35, 55

**Philosophy** 7, 12

**Psychology** 7

**Russian** 100a, 100b, 100c, 100d

**Spanish** 1, 1a, 1b, 1n, 2, 2a, 2b, 2n, 3, 3n, 100a, 100b, 100c, 100d

**Speech** 1a, 10, 33, 57a, 57b

**Telecommunications** 66, 71

**Welding Technology** 51

## E. Electives

All courses not included in the major requirements or specified above in the General Education requirements are considered electives.



# Program Planning Suggested Curricula



## Focus on Faculty . . .

### BETTY WITTWER

In February of 1977, the Business Division opened the doors of a new Business Skills Center, where students could learn secretarial skills by working on their own with lesson plans, slide-tape demonstration materials, and the help of classroom instructors. The Center and its individualized approach to learning were an immediate success: now, less than two years later, Business instructors enroll as many as 50 students in skills classes every hour the Center is open. Since instruction is "open entry-open exit," students can sign up for a beginning, intermediate or advanced module of a course like typing, work through the study materials and exercises according to their own schedules, and receive units of credit when they're able to demonstrate skill proficiency. Those who have learned through the Center say they like working with the audio-visual materials and progressing at their own pace—many claim it's the best way to learn skills like typing and machine transcription.

That kind of response is particularly heartening to instructor Betty Wittwer, who, with Kathleen Burton, revised the Business skills curriculum to include modularized courses, coordinated the necessary remodeling work and equipment purchases, and supervised the Center's conversion and opening. Business Division Director Cecilia Hopkins says Wittwer's hard work and dedication to the Skills Center project were the biggest contributors to its overwhelming success.

Her involvement in the project started years before the Center was actually opened. "I've always been interested in applying individualized instruction techniques to business education—that was the subject of my Master's thesis," she says. "Over an eight year period we saw enrollments in advanced typing classes go lower and lower, so much so that we weren't able to offer classes every semester. It became very apparent that our student population was changing, that we needed more flexibility in our scheduling." With that impetus, Wittwer and Burton (with the help of Secretarial instructors) reviewed the typing curriculum and in Fall 1975 "modularized" the existing courses—they broke down semester-length classes into small subject units that students could study individually.

"We did it all ourselves and made up our own packets of materials, so it was fairly primitive," Wittwer recalls, "but it seemed to give us the flexibility we needed." When the individualized approach was well received by students, Wittwer was granted a year's sabbatical leave to continue the revamping of the skills curriculum. At the same time, she worked with Lois Callahan, CSM's Dean of Instruction, who obtained \$40,000 from federal Vocational Education Act funds so that a full-fledged Skills Center—complete with study carrels, slide-tape equipment, and professionally produced lesson materials—could be opened to teach the newly revised classes. Building the Center meant converting two classrooms to one large, open area, which Wittwer "master-minded" while she helped establish a system for enrolling students and staffing the Center for daytime and evening hours.

Now, six instructors, one instructional aide, and one student assistant each hour work in the Center, which is open to students up to 11 hours a day. "We seem to be pleasing more of the people more of the time," says Wittwer. "The Center is always in use, and we've made a much more efficient use of classroom space." As an instructor, Wittwer is glad that her time is freed for working with students individually, and she notes an "appreciable" increase in overall learning, as evidenced by the number of units students have completed since the Center was opened. The approach has worked so well, in fact, that soon other skills classes will be "plugged in" to the Center.

"It's been enormously successful, thanks to Betty," says Division Director Cecilia Hopkins. "We're really finding that it's the way to go."

## Program Planning and Suggested Curricula

Students enrolling at College of San Mateo should plan a program of studies which will meet their education goals. Their objective may be to transfer to a four-year college or university. Depending on the program they follow, they may also receive an Associate in Arts (or Associate in Science) degree from College of San Mateo. On the other hand, their objective may be to enter an occupational field after becoming qualified through one of numerous Associate-in-Arts/Science degree programs or through one of several certificate programs.

If in the course of their enrollment at College of San Mateo students find it advisable to change their program of studies, they may do so, in conference with their counselor. However, students should be aware that any changes may result in extending the time necessary to fulfill all requirements.

Students have the responsibility for planning their programs.

### Transfer Programs

The student who intends to transfer to a four-year college or university or to another educational institution should consult the catalog of that institution to ascertain requirements for graduation.

College catalogs and occupational information on file in the Career Development Center are accessible to the student. Students may write directly to the registrar or dean of admissions of the college of their choice to obtain catalogs, circulars of information and other data concerning required subjects.

### Transfer of Credit

A student expecting to transfer to a four-year college or university can usually complete the first two years of work at College of San Mateo. A student must complete 60 transferrable units to be classified as a junior upon entering a four-year college or university. In any event, it is important that they consult with their counselor/advisor in order to arrange a program which will meet the requirements for transfer to the institution of their choice.

The earlier students make a decision regarding a transfer institution, the better their chances are for meeting all requirements without delay. If they are unable to make this decision when they enter College of San Mateo, they may elect to follow a general education transfer pattern.

High school subject deficiencies may be made up at College of San Mateo in order to meet course prerequisites at college level. In some instances students may qualify for transfer to the college of their choice by maintaining an acceptable grade-point average at College of San Mateo in a minimum of 56 units of appropriate transfer courses.

### Transfer Majors

Students who intend to transfer and major in one of the following fields should plan their course at College of San Mateo to meet the general requirements for junior standing, as well as the lower division departmental requirements of the college or university to which they plan to transfer. This list indicates some majors available and is not intended to be all inclusive. Students should work closely with counselors in order to fulfill both major and lower division requirements for the college of their choice, including specific courses to be taken at College of San Mateo.

Accounting	Industrial Arts
Administration of Justice	Insurance
Aeronautics	Interior Design
Agriculture (vocational)	International Relations
Anatomy	Journalism
Anthropology	Law (Pre-Legal)
Archaeology	Liberal Arts
Architecture	Life Science
Art	Machine Tool Technology
Astronomy	Management
Bacteriology	Marine Biology
Biochemistry	Marketing
Biology	Mathematics
Biophysics	Medical Services
Botany	Meteorology
Business Administration	Microbiology
Business Education	Music
Chemistry	Nursing
Consumer Arts and Sciences	Nutrition
Criminology	Office Administration
Data Processing	Optometry (Pre-Optometry)
Dental Hygiene	Paleontology
Dentistry (Pre-Dental)	Personnel Relations
Dietetics	Pharmacy
Drafting Technology	Philosophy
Drama	Photography
Ecology	Physical Education
Economics	Physical Therapy
Education	Physics
Electronics Technology	Physiology
Engineering	Police Science
Engineering Technology	Political Science
English	Psychology
Entomology	Public Health
Ethnic Studies	Real Estate
Finance	Recreation
Foreign Language	Social Science
Forestry	Sociology
French	Spanish
Genetics	Technical Art/Graphics
Geography	Technology
Geology	Telecommunications
Geophysics	Theatre Arts
German	Transportation
Health Science	Veterinary Medicine (Pre-Veterinary)
History	Welding Technology
Home Economics	Wildlife Conservation (Management)
Horticulture	Zoology
Humanities	

## California State University and Colleges

### GENERAL EDUCATION REQUIREMENTS

Graduation from the California State University and Colleges requires the completion of a general education program (40 units) with at least 32 units chosen under specific limitations from the areas of (a) Natural Science, (b) Social Science, (c) Humanities and (d) Basic Subjects. In addition to the 32 units, the elective units may include any transferable course outside the area of the major. College of San Mateo will certify completion of the general education requirement (40 units) or the completion of specific area requirements if the student satisfies the following requirements.

#### NATURAL SCIENCES

(Minimum of 6 units — at least one course in Life Science and one course in Physical Science.)

##### LIFE SCIENCE

###### Anthropology 1

**Biology** 1, 2, 3, 5, 7, 8, 9, 11, 12, 14, 15, 16, 18a, 18b, 21, 22, 23, 24, 25, 26, 27, 30, 32, 33, 40, 41, 42

###### Consumer Arts and Sciences 9

**Horticulture** 95a, 95b, 115, 118

###### Paleontology 1

##### PHYSICAL SCIENCE

**Astronomy** 1, 10, 15, 16

**Chemistry** 1a, 1b, 5, 7, 11a, 11b, 12a, 12b, 21-27\*, 30a, 30b

###### Consumer Arts and Sciences 22

###### Geography 1a

**Geology** 1a, 1b, 6, 10

###### Meteorology 1, 10

###### Oceanography 10

###### Physical Science 10

**Physics** 2a, 2b, 4a, 4b, 4c, 10

\*For the purpose of this requirement, three one-unit courses from Chemistry 20-27 are considered the equivalent of one course.

#### SOCIAL SCIENCES

(Minimum of 11 units — including American Institutions, State and Local Government requirement and 6 additional units.)

**Anthropology** 2, 3, 4, 8, 18

###### Business 8a, 8b

###### Consumer Arts and Sciences 45

**Economics** 1a, 1b, 10, 11, 12, 15, 20a, 20b, 20c

**Ethnic Studies** 1a, 1b, 3, 4, 5, 6a, 6b, 7, 8, 14, 16, 18, 20, 25, 33a, 33b, 46

**Geography** 1b, 4, 5a, 5b, 6

**History** 4a, 4b, 4c, 5, 6a, 6b, 8a, 8b, 11, 12, 17a, 17b, 20a, 20b, 21, 22, 24, 25, 26, 28, 30, 32, 33, 35, 44, 45, 46

**Labor Studies** 10, 11, 12a, 14, 15, 20

**Political Science** 1, 2, 3, 5, 7, 9, 12, 18, 21, 22, 23, 25, 27, 28, 30, 39

**Psychology** 1a, 1b, 4, 5, 6, 10, 13, 14, 28, 33, 34, 39, 40

**Social Science** 20, 10a-10e, 33a, 33b

**Sociology** 1, 2, 3, 4, 6, 12, 16, 40a, 40b

#### HUMANITIES

(Minimum of 6 units, including at least 3 units in Literature or Philosophy.)

##### Architecture 10

**Art** 1a, 1b, 1c, 1d, 10a, 10b, 40, 68a, 68b, 85a, 85b

**Drama** 1a, 1b, 2a, 2b, 10

**English** 12, 16a, 16b, 20, 21, 22, 23, 24, 25, 26, 27, 29, 30, 31a, 31b, 42a, 42b, 43, 46a, 46b.

**Ethnic Studies** 11, 12, 15, 17, 41, 42, 43, 44, 45

**Fine Arts** 16a, 16b

**French** 4, 25a, 25b, 30

**German** 4, 25a, 25b, 30

**Humanities** 1, 2, 25

**Music** 6, 7, 8, 9

**Philosophy** 1, 6a, 6b, 20a, 20b, 20c, 23, 24a, 24b, 35, 37

**Spanish** 4, 4n, 25a, 25b, 29, 30

**Speech** 2a, 2b

#### BASIC SUBJECTS

(Minimum of 6 units, including English composition.)

**English** 2, 11, Composition

**Data Processing** 50, 53a, 54, 56

###### Economics 2

**English** 9a, 9b, 13, 14

**Fine Arts** 15a, 15b

**Mathematics** 4, 5, 6, 7, 10, 11, 11a, 11b, 12, 13, 16, 17, 19, 20, 21, 22, 23a, 24a, 24b, 25, 27, 28, 30, 31, 32, 33, 34, 35

**Philosophy** 7, 12

###### Psychology 7

**Speech** 1a, 10, 33

**French** 1, 1a, 1b, 2, 2a, 2b, 3

**German** 1, 1a, 1b, 2, 2a, 2b, 3

**Spanish** 1, 1a, 1b, 1n, 2n, 2, 2a, 2b, 3, 3n

**Japanese** 1, 1a, 1b, 2, 2a, 2b

#### ELECTIVES

Since individual campuses may have additional requirements in the upper division, it is important that you consult the catalog of the transfer institution and discuss the requirements with your counselor.



## College of San Mateo Courses Transferable Toward Baccalaureate Degree Credit at California State Universities and Colleges

1978-79

Courses which College of San Mateo designates as appropriate for baccalaureate credit are accepted by any of the California State Universities and Colleges for credit toward a baccalaureate degree. Below are listed the courses given at College of San Mateo which are transferable toward a baccalaureate degree.

- Admin. of Justice** 1, 2, 3, 4, 5, 7, 10, 12, 15a-b-c, 17, 19, 25, 47, 48, 49.
- Aeronautics** 2a-b-c, 5, 6, 11, 12, 13, 14, 15, 16, 47, 48, 49, 51, 51L, 52, 52L, 53, 53L, 54, 54L, 55, 55L, 56, 56L, 57, 57L, 58, 58L.
- Anthropology** 1, 2, 3, 4, 8, 18, 48, 49.
- Architecture** 1a, 4, 7a-b, 10, 11, 12, 13, 14, 15a-b, 16, 17, 18, 21, 22, 23, 24, 47, 48, 49.
- Art** 1a-b-c-d, 2a-b, 3a-b, 4, 5a-b, 6a-b, 7a-b, 10a-b, 12a, 15, 17a-b, 20a-b, 21a-b, 22, 23, 40, 41a-b-c, 43a-b, 47, 48, 49, 51, 52, 62a-b, 68a-b, 70, 80, 81, 82, 83, 84, 85a-b, 87, 88, 89.
- Astronomy** 1, 10, 15, 16, 48, 49.
- Biology** 1, 2, 3, 4, 5, 7, 8, 9, 11, 12, 14, 15, 16, 17, 18a-b, 19, 21, 22, 23, 24, 25, 26, 27, 30, 32, 33, 37, 40, 41, 42, 47, 48, 49.
- Business** 2, 8a, 10, 11, 12, 15, 16, 17, 18, 24, 25, 30, 31, 32, 35, 45, 47, 48, 49, 51, 52, 59L, 65, 66, 70, 71, 72, 73, 74, 75, 76, 77, 81, 82, 83a, 84, 85, 87, 88, 90.1, 90.2, 90.3, 90.4, 90.5, 92.1, 92.3, 92.4, 92.5, 92.6, 92.7, 92.8, 92.9, 93, 94, 94L, 131, 134, 135, 136, 138, 139, 141.
- Business Administration** 1a-b, 18a-b-c, 20, 48, 49.
- Chemistry** 1a-b, 5, 7, 10, 11a, 11b, 12a, 12aL, 12b, 21, 22, 23, 24, 25, 26, 27, 30a-b, 48, 49.
- Consumer Arts & Sciences** 1, 2, 5, 9, 15, 17, 18, 20, 21, 22, 24, 26, 40, 45, 47, 48, 49, 80, 81, 82, 83, 84, 85a-85b, 87, 88, 89.
- Dance** 5, 6, 8, 10, 12a-b, 13a-b, 14, 20a-b.
- Data Processing** 20, 25, 47, 48, 49, 50, 52, 53a-b, 54, 55, 56, 106.
- Drafting Technology** 14, 48, 49, 52a-b, 62a-b, 63.
- Drama** 1a-b, 10, 12a-b, 13, 14a-b-c-d, 15, 16, 17, 48, 49.
- Early Childhood Education** 2, 3, 4, 5, 6, 7, 47, 48, 49.
- Economics** 1a-b, 2, 10, 11, 12, 15, 20a-b-c, 45, 48, 49.
- Education** 1, 47, 48, 49.
- Electronics** 100, 110, 200, 230, 250, 252, 260, 280, 300, 302, 310, 330, 350, 360, 362, 380, 580, 590.
- Engineering** 1a-b, 4, 14, 16, 17, 19, 20, 22, 35, 36, 37, 38, 45, 46, 47, 48, 49, 90a-b, 91, 92.
- English** 2, 3, 9a-b, 11, 12a-b-c-d, 13, 14, 15a-b, 16a-b, 20, 21, 22, 23, 24, 25, 26, 27, 29, 30, 31a-b, 42a-b, 43, 46a-b, 47, 48, 49, 57a, 57b.
- Ethnic Studies** 1a-b, 3, 4, 5, 6a-b, 7, 8, 11, 12, 14, 15, 16, 17, 18, 20, 25, 33a-b, 41, 42, 43, 44, 45, 46, 48, 49.
- Fine Arts** 15a-b, 16a-b, 17a-b.
- French** 1, 1a-b, 2, 2a-b, 3, 3a-b, 4, 8a-b, 25a-b, 30, 48, 49.
- Geography** 1a-b, 4, 5a-b, 6, 48, 49.
- Geology** 1a-b, 6, 10, 48, 49.
- German** 1, 1a-b, 2, 2a-b, 3, 3a-b, 4, 8a-b, 25a-b, 30, 48, 49.
- Guidance** 10, 11, 12, 30, 31, 48.
- Health Science** 1, 2a-b-c-d-e-f-g-h-i, 9, 11, 47, 48, 49.
- History** 4a-b-c, 5, 6a-b, 8a-b, 11, 12, 17a-b, 20a-b, 21, 22, 24, 25, 26, 28, 30, 32, 33, 35, 44, 45, 46, 48, 49.
- Horticulture** 47, 48, 49, 90a-b-c-d-e-f, 91a-b, 93, 94, 95a-b, 96a-b, 97a-b, 98a-b, 110a-b, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120.
- Humanities** 1, 2, 25, 48, 49.
- Japanese** 1, 1a-b, 2, 2a-b.
- Journalism** 1, 2, 15, 16, 48, 49.
- Labor Studies** 10, 11, 12a, 14, 15, 20, 48, 49.
- Library Technology** 1, 47, 51, 52, 53, 54, 55, 56, 57.
- Machine Tool Technology** 48, 49, 51a-b, 52, 52L, 53, 53L, 62, 62L, 63, 63L, 64, 100, 110, 111, 120, 121, 210, 211, 220, 221, 230, 580, 590.
- Management** 52, 72, 99.
- Mathematics** 4, 5, 6, 7, 10, 11 or 11a-b, 12, 13, 16, 17, 19, 20, 21, 22, 23a-b, 24a-b, 25, 27, 28, 30, 31, 32, 33, 34, 35, 48, 49, 55.

Medical Assisting 94.

Meteorology 1, 10, 48, 49.

Military Science 1a-b, 12a-b.

Music 1a-b, 2a-b, 4a-b, 5a-b, 6, 7, 8, 9, 12, 13, 14, 15, 16, 17, 18a-b, 21, 22, 23, 24, 25, 26a-b, 27, 28, 33, 34, 35, 37, 38, 39, 40, 48, 49.

Nursing 1, 2, 3, 4, 5, 47.

Oceanography 10.

Paleontology 1.

Philosophy 1, 6a-b, 7, 12, 20a-b-c, 23, 24a-b, 35, 37, 48, 49.

Physical Education 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 21, 22, 23, 24, 40, 41a-b, 42a-b, 43a-b, 47, 48, 49.

Physical Science 10, 47, 48, 49.

Physics 2a-b, 4a-b-c, 10, 48, 49.

Political Science 1, 2, 3, 5, 7, 9, 12, 18, 21, 22, 23, 25, 27, 28, 30, 39, 48, 49.

Psychology 1a-b, 4, 5, 6, 7, 10, 13, 14, 28, 33, 34, 39, 40, 48, 49.

Recreation Education 40, 41, 42, 43, 44.

Social Science 10a-b-c-d-e, 20, 33a-b, 47, 48, 49.

Sociology 1, 2, 3, 4, 6, 12, 16, 40a-b, 48, 49.

Spanish 1, 1a-b, 1n, 2, 2a-b, 2n, 3, 3n, 4, 8a-b, 25a-b, 29, 30, 48, 49.

Speech 1a, 2a-b, 10, 33, 48, 49.

Technical Art/Graphics 48, 49, 52a-b, 54, 55, 63, 64, 65a-b, 66.

Technology 47, 48, 49, 71, 72, 74, 76, 79.

Telecommunications 47, 48, 49, 51, 52a-b, 53, 60a-b, 61a-b-c, 66, 67, 68, 70, 71.

Welding Technology 48, 49, 51, 52a-b, 52aL-bL, 53, 62a-b, 62aL-bL, 75.

Cooperative Education 47 series with a maximum of 12 units.

## Stanford University

### JUNIOR STANDING REQUIREMENTS

Selection is made on a competitive basis from those who meet minimum requirements and who have a significant reason for transferring to Stanford. All student candidates must satisfy general requirements for admission to the university itself, as well as special requirements for admission to the Schools of Medicine, Law, Nursing or the Hopkins Marine Station.

#### Academic Requirements for Junior Standing:

1. Completion of 87 quarter units (58 semester units). Normally a 2.75 grade point average is required for consideration.
2. A satisfactory score on the Scholastic Aptitude Test of the College Entrance Examination Board.
3. Recommendations as to character and personal qualifications.

Students are urged to consult with their counselor at the College in regard to their plans and to refer to the Stanford University Bulletin which may be secured directly from Stanford University.

## University of California

A student planning to transfer to one of the campuses of the University of California can usually complete the first two years of his or her work at College of San Mateo. In some cases, students may wish to make up high school course deficiencies or grade point average deficiencies. It is important to work with your counselor from the general catalog of the University campus you plan to attend. The current issue of the University publication "Prerequisites and Recommended Subjects" is a helpful planning guide. It lists the requirements for admission, breadth requirements and requirements for the major, all of which should be carefully considered in planning your program at CSM.

## Courses from College of San Mateo Acceptable at University of California (All Campuses)

This information represents that most current at the time of publication of this catalog. The College of San Mateo recommends strongly that you discuss the transferability of courses to the University of California with your counselor who may have more recent information and who can assist with the interpretation of the course applicability to various major programs.

**Administration of Justice (Police Science)** 1, 2, 3, 4, 5, 9, 10, 52, 55, 70

**Anthropology** 2, 3, 4, 8, 18

**Architecture** 1a, 10, 11, 12, 14, 15a, 15b, 22, 23, 24, 115a, 115b

**Art** 1a, 1b, 1c, 1d, 2a, 2b, 3a, 3b, 4, 5a, 5b, 6a, 6b, 7a, 7b, 8, 10a, 10b, 12a, 15, 17a, 17b, 20a, 20b, 21a, 21b, 22a, 22b, 25, 26, 27a, 27b, 40, 41a, 41b, 41c, 43a, 43b

**Astronomy** 1, 10, 15, 16

**Biology** 1, 2, 3, 5, 6, 7, 9, 11, 14, 15, 16, 17, 21, 22, 23, 24, 25, 26, 27, 30, 31, 32, 33, 34, 37, 40

**Business** 2, 35

**Business Administration** 1a, 1b, 18a or 18b

**Chemistry** 1a, 1b, 5, 7, 10, 12a, 12aL, 12b, 20, 21, 22, 23, 24, 25, 26, 27, 30a, 30b

**Chinese** 1, 1a, 1b, 2, 2a, 2b

**Consumer Arts & Sciences** 1, 2, 3, 9, 20, 22, 24, 26, 40, 45

**Cooperative Education** 47 (1-4; maximum 6 units in otherwise transferable areas only).

**Data Processing** 25, 50, 52, 53a, 53b, 54, 56

**Drama** 1a, 1b, 2a, 2b, 10, 12a, 12b, 13, 14a, 14b, 14c, 14d, 15, 16, 17, 20, 26, 27a, 27b

**Early Childhood Education** 3, 7

**Economics** 1a, 1b, 2, 10, 11, 12, 13, 14a, 14b, 15, 20a, 20b, 20c

**Education** 1

**Engineering** 1a, 1b, 4, 19, 20, 22, 35, 36, 37, 38, 45

**English** A/11, A/11X, 2, 9a, 9b, 11, 12a, 12b, 12c, 12d, 13, 14, 15a, 15b, 16a, 16b, 20, 21, 22, 23, 24, 25, 26, 27, 29, 30, 31a, 31b, 42a, 42b, 43, 46a, 46b, 57a, 57b

**Ethnic Studies** 1, 3, 4, 5, 6a, 6b, 7, 8, 11, 14, 15, 16, 17, 18, 20, 33, 41, 42, 43, 44, 45

**Fine Arts** 15a, 15b, 16a, 16b, 17a, 17b

**French** 1, 1a, 1b, 2, 2a, 2b, 3, 4, 8a, 8b, 25a, 25b, 30

**Geography** 1a, 1b, 4, 5a, 5b

**Geology** 1a, 1b, 6, 10

**German** 1, 1a, 1b, 2, 2a, 2b, 3, 4, 8a, 8b, 25a, 25b, 30

**Health Science** 1, 2a, 2b, 2c, 2d, 2e, 2f, 2g, 2h, 3, 9

**History** 4a, 4b, 4c, 5, 6a, 6b, 8a, 8b, 11, 12, 17a, 17b, 20a, 20b, 21, 22, 24, 25, 26, 28, 33, 34a, 34b, 35, 44, 45, 46

**Humanities** 1, 2

**Japanese** 1, 1a, 1b, 2, 2a, 2b

**Journalism** 1, 2, 15, 16

**Labor Studies** 10, 11

**Library Technology** 1

**Mathematics** 10, 13, 16, 17, 22, 23a, 23b, 24a, 24b, 25, 27, 28, 30, 31, 32, 33, 34, 35

**Meteorology** 1

**Military Science** 1a, 1b, 12a, 12b

**Music** 1a, 1b, 2a, 2b, 4a, 4b, 5a, 5b, 6, 7a, 7b, 9, 12a, 12b, 13, 14, 15, 16, 17, 18a, 18b, 22, 23, 24, 25, 26a, 26b, 27, 28, 33, 34, 37, 38, 39, 40, 41

**Oceanography** 10

**Paleontology** 1

**Philosophy** 6a, 6b, 7, 8, 12, 20a, 20b, 20c, 23, 24a, 24b, 35

**Physical Education** 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 40, 41a, 41b, 42a, 42b

**Physical Science** 10

**Physics** 2a, 2b, 4a, 4b, 4c, 10

Political Science 1, 2, 3, 5, 7, 9, 12, 18, 21, 22, 23, 25, 27, 30, 39

Psychology 1a, 1b, 3, 4, 5, 6, 7, 10, 13, 14, 28, 33, 34, 39

Recreation Education 40, 41

Social Science 10a, 10b, 10c, 10d, 10e, 20, 25, 33

Sociology 1, 2, 3, 4, 6, 12, 16, 40a, 40b

Spanish 1, 1a, 1b, 2, 2a, 2b, 3, 3n, 4n, 4, 8a, 8b, 25a, 25b, 29, 30

Speech 1a, 2a, 2b, 4, 5, 10, 33

Telecommunications 51, 61a, 61b, 61c, 70

**SPECIAL NOTE:**

The following courses are also transferable:

47 Cooperative Education in (Department)

48 Special Seminar in (Department)

49 Individual Study in (Department)

## Career Programs

Specialized career programs are offered in more than fifty occupational fields (see tabular listing which follows) for students planning to prepare for gainful employment. All career programs are carefully developed by advisory committees composed of college staff and selected representatives from the business and industrial community.

Career programs are designed to develop personal and technical competencies necessary for successful employment and job advancement.

### Two-Year Career Programs—AA or AS Degree

All two-year programs lead to an Associate in Arts or Associate in Science degree. Many of the units earned in career programs are accepted by four-year colleges as meeting certain requirements.

### Certificate Programs

Certificates of Proficiency are awarded upon successful completion of selected career programs. Some Certificates of Proficiency require less than two years of full-time study. To be eligible for a certificate, a student must pass all required certificate courses with a grade of "C" or better.

Certificates may be earned through day or evening part-time enrollment or during regular full-time enrollment.



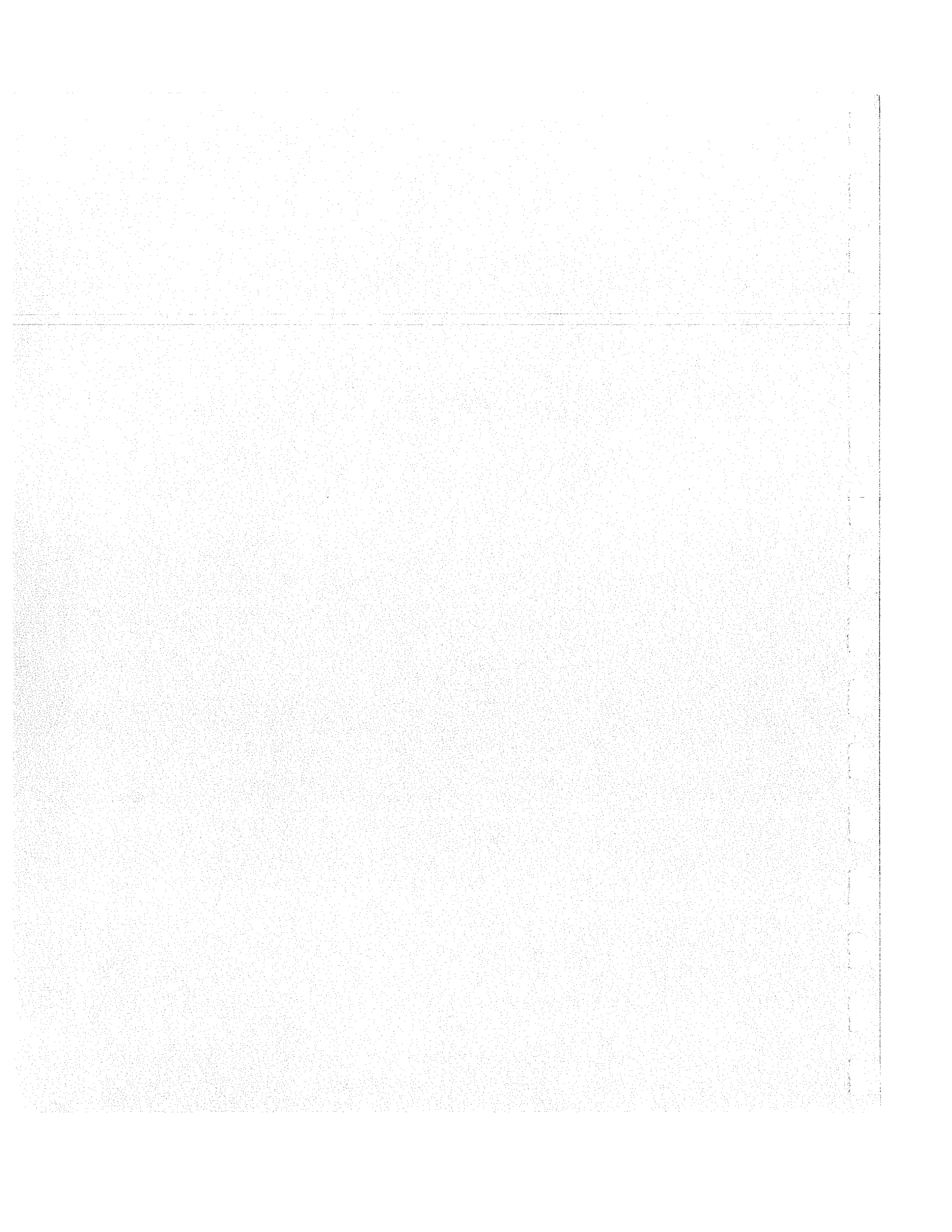
A special Board of Trustees project designed to improve students' basic skills in writing is being developed by a number of Language Arts instructors, including (from left) Jim Bell, Wilson Pinney (Language Arts Division Director), and Ray Pilug.



### College of San Mateo A.A./A.S. Degree and Certificate Career Programs

Occupational Area	Curriculum	A.A./A.S. Degree	Certificate
Administration of Justice	Administration of Justice	X	X
Aeronautics	Aircraft Maintenance Technology	X	
	Airframe/Powerplant Maintenance Technology	X	X
	Commercial Pilot Technology	X	X
	Pilot Technology	X	
Business	Banking		
	Banking Operations		X
	Credit & Lending		X
	Business Administration	X	
	Chartered Life Underwriter		X
	Clerical	X	X
	Data Processing	X	
	Computer Programmer		X
	Computer Operator		X
	Escrow	X	X
	Key Data Entry		X
	Legal Secretary	X	X
	Management		
	Business Management	X	X
	Small Business Management	X	X
	Industrial Management	X	X
	Marketing Management	X	X
	Medical Assisting	X	X
	Merchandising — Fashion	X	X
	Merchandising — General	X	X
	Merchandising — Management	X	X
	Real Estate	X	X
	Secretarial	X	X
	Transportation	X	X
Consumer Arts and Sciences	Consumer Arts and Sciences	X	
	Fashion Merchandising	X	X
	Interior Design	X	X
Cosmetology	Cosmetology — Cosmetologist	X	X
	Cosmetology — Manicurist		X
	Cosmetology — Wig Stylist		X
	Cosmetology — Instructor	X	
Dental Assisting	Dental Assisting	X	X
Education	Early Childhood Education — Basic		X
	Early Childhood Ed. — Advanced	X	X
	Teacher Assistant	X	X
Fire Science	Fire Science—Basic		X
	Fire Science	X	X
	Fire Science Academy		X
Horticulture	Floristry		X
	Vocational Gardening		X
	Environmental Horticulture	X	X
	Ornamental Horticulture	X	X
Library	Library Technical Assistant		X
Nursing	Nursing	X	
	Nursing — Vocational	X	X
	Nursing Assistant Home Health Aide		X
Technology	Building Inspector		X
	Drafting Technology	X	X
	Electronics Technology	X	X
	Machine Tool Technology	X	X
	Technical Art/Graphics	X	X
	Welding Technology	X	X
Telecommunications	Broadcast Engineering (Radio & Television)	X	X
	Radio Broadcasting	X	X
	Television Broadcasting	X	X

For information on other occupational programs in the District, call Canada College, 364-1212, or Skyline College, 355-7000.



**Course Requirements for Transfer Majors**  
**A.A./A.S. Degrees**  
**Certificate Career Programs**



## Focus on Faculty . . .

### BETTY RAWLINGS

"She's an outstanding instructor," says Health & Service Careers Division Director John Williams of Betty Rawlings, who's been teaching Cosmetology classes full-time at CSM since 1973. "The program has grown from 75 students to about 120, and that growth has coincided exactly with her tenure."

Rawlings' string of credentials and accomplishments over her 18-year career as a cosmetologist helps explain Williams' praise. She's won some 65 state and national hair fashion awards (including California's two biggest, the Gold Cup and Gold Trophy), and has studied at one time or another with 18 different national and international champion hair stylists. For the past nine years, she's been a member of the exclusive California Hair Fashion Committee, a statewide group of just 50 cosmetologists who serve as the educational body for all of California's hairdressers. In that capacity, Rawlings travels around the state in her free time to teach private classes in new styling and hair care techniques, the same techniques she teaches to Cosmetology students at CSM.

She got started in her teaching career shortly after obtaining her cosmetology license, when she caught the eye of hair fashion notable Salvatore Megna, was taken under his tutelage for advanced training, and eventually became part of his teaching team. After four years of teaching the "Megna method" to hair dressers around the state, Rawlings went to work at I Magnin's Charles of the Ritz salon in Oakland, then opened her own salon in Fremont. Even while in business for herself, she continued to teach advanced hairstyling privately, so the transition from salon owner to full-time instructor was an easy one. After brief teaching stints at Solano Junior College and San Jose City College (plus a year's break from academia to work for Neiman Marcus in Texas), Rawlings came to CSM. Since that time, the Cosmetology curriculum here has been revised and updated, and a completely new program in advanced hair styling—recognized as one of the finest in the state—has been offered to evening students. Rawlings thinks that offering cosmetology training at the community college level places students here at a "tremendous advantage."

"When I was taking advanced styling classes," she recalls, "I spent close to \$10,000 over a six-year period for private sessions, and now those sessions cost up to \$500 apiece. Students here get the same kind of instruction tuition-free." For a hair stylist to remain current, she explains, he or she must master new fashions and techniques which are released seasonally by state and national cosmetology organizations. Because Rawlings maintains that currency, Cosmetology students—both those working towards their licenses and professional hairdressers working to update their skills—receive instruction in new methods that is normally only privately available. As a consequence, CSM program graduates are snapped up by area employers almost immediately; some salon owners, Rawlings says, don't even bother to advertise their openings.

"Being a successful cosmetologist takes a lot of dedication," Rawlings maintains. "It means taking lots of classes, entering lots of competitions, and doing lots of shows." She speaks from experience, having juggled her own hectic career while raising six children. But, she insists, "It's worth it."



## Course Requirements for Transfer Majors A.A./A.S. Degrees, Certificate Career Programs

### Administration of Justice

*Associate in Science Degree with a Major in Administration of Justice*

This Program is designed for both transfer and non-transfer students. Although only 18 units in Administration of Justice courses are necessary for the major, it is recommended that the transfer student take the five core courses plus nine elective units only and concentrate in the area of general education for transfer in junior standing to a four-year institution.

Requirements	Semester Units
Administration of Justice 1 or 90, 2, 3, 4, 5 and three elective units .....	18

**Suggested Electives:** Administration of Justice 7 and 17 are highly recommended for transfer students; 10, 12, 19 are also desirable.

General Education and other requirements for the A.S. degree: See pages 61-62.

#### Certificate Programs

These programs, offered to police officer classification and qualified pre-service students, consist of the following pre-service courses: introduction (3 units), Principles and Procedures of Justice System (3 units), Criminal Law (3 units), Criminal Evidence (3 units), Police Community Relations (3 units), Criminal Investigation (3 units), and Traffic Supervision and Control (3 units). Students who complete these courses receive a Certificate of Completion and college credit, which may be applied to the Associate in Science degree.

Verification of completion will be issued for the following special courses upon completion with a grade of C or better. Elective credit may be applied to the A.S. degree.

ADMJ 94 Advanced Officer Training.....	1-2 units
ADMJ 96a Peace Officer Orientation.....	1-2 units
ADMJ 96c Security Baton .....	½-1 units
ADMJ 98 Police Firearms, Chemical Agent.....	½-1 units
ADMJ 99a, 99b, 99c Reserve Officer Training.....	10 units

### Aeronautics

Transfer programs are available for four-year degree curricula at San Jose and San Francisco State Universities and other institutions which provide Aeronautics or Design and Industry majors.

### Aeronautics — Airframe and Powerplant Technology

*Associate in Science Degree with a Major in Airframe and Powerplant Technology*

Recommended High School Preparation: Elementary Algebra, Intermediate Algebra, Plane Geometry, Drafting, General Shop, Physics, or Physical Sciences. Students should check course descriptions and prerequisites and discuss recommended sequence with counselors.

Because of Federal Aviation Administration regulations regarding attendance and performance, the following special rules apply to all Maintenance courses (Aero 51 through Aero 58): 1) Any time missed during one of these courses must be made up before the end of the semester. If more than three days are missed in any one course, the student will receive a "W," and the course must be repeated before he/she is eligible to enroll in an advanced course. 2) Anything less than 70% (letter grade of C) will be considered a failing grade. A final examination will be given at the end of each eight-week course. Failure to achieve 70% on this final examination will require that the course be repeated before the student can enroll in an advanced course.

Career Opportunities: The student who completes courses and obtains a Federal Aviation Certificate and Associate in Science degree in Airframe and Powerplant Technology has excellent opportunities for steady employment by airlines as well as other aircraft operations.

Requirements	Semester Units
Airframe: Aero 56, 56L, 58, 58L.....	13
Powerplant: Aero 55, 55L, 57, 57L.....	13
Total	26

If a student has an airframe or powerplant license, upon application to the Aeronautics Department, units of credit may be granted. If a student wishes to have an A.S. degree in Airframe and Powerplant, a minimum of 6 units from the following list of technical electives is required, plus the airframe or powerplant curriculum lacking. Technology 71, Electronics 14, 53, Telecom. 65, Drafting 14, Welding 75, Physics 10.

Requirements	Semester Units
FAA Airframe or Powerplant license .....	(equivalent) 7
Powerplant: Aero 55, 55L, 57, 57L.....	13
Airframe: Aero 56, 56L, 58, 58L.....	

Technical Electives (6 units required)	
Technology 71, Electronics 14, 53, Telecom. 65, Drafting 14, Welding 75, Physics 10 .....	6
	Total 26

If a student wishes to obtain an A.A. or A.S. degree in some other major, the 7 units may be used for elective credit. General Education and other requirements for the A.S. degree: see Pages 61-62.

**Certificate Program**

Students may apply for a certificate in Airframe and Powerplant Technology upon completion of the following courses:

<b>Requirements</b>	<b>Semester Units</b>
Aero. 55, 55L, 56, 56L, 57, 57L, 58, 58L .....	26

**Aeronautics—  
Aircraft Maintenance Technology**

*Associate in Science Degree with a Major in Aircraft Maintenance Technology*

This major is designed especially for the student who already possesses both the airframe and powerplant licenses granted by the F.A.A. Upon application to the Aeronautics Department, a student may receive 13 units of credit toward an Associate in Science degree in Aircraft Maintenance Technology. In addition a minimum of 13 units is required from the list of selected electives as indicated below:

<b>Requirements</b>	<b>Semester Units</b>
F.A.A. Airframe and Powerplant licenses ..... (equivalent)	13

**Select 13 units from the following courses:**

Drafting 14; Electronics 14, 53; Physics 10; Technology 71, Welding 75, Electronics 105, 106; Telecom. 65 .....	13
	Total 26

If a student wishes to obtain an A.A. or an A.S. Degree in some other major, the 13 units may apply toward elective credit.

General Education and other requirements for the A.S. degree: see Pages 61-62.

**Aeronautics—Commercial Pilot**

*Associate in Science Degree with a Major in Commercial Pilot*

Recommended High School Preparation: Intermediate Algebra, Plane Geometry, Drafting, Trigonometry, General Shop, and Physics or Physical Sciences or Business Administration. Student should check course descriptions and prerequisites, and discuss recommended sequence with counselors.

Designed for the student who plans to become a commercial pilot, flight instructor, airline pilot or fixed-base operator and does not plan to transfer to a four-year college. This program may also be used as basic training for aviation business and entrance into air traffic control employment. The flight portion of the program is handled by a fixed-base operator, and the student is responsible for payment of all flight costs.

<b>Requirements</b>	<b>Semester Units</b>
Aeronautics 2a, 2b, 2c, 3*, 5, 6, 7 .....	21
Meteorology 1 or 10 .....	3

General Education and other requirements for A.S. degree: See pages 61-62.

**Certificate Program**

Students may apply for a certificate in Commercial Pilot upon completion of the following courses:

<b>Requirements</b>	<b>Semester Units</b>
Aero. 2a, 2b, 2c, 3*, 5, 6, 7 .....	21½-23
Meteorology 1 or 10 .....	3

Total 26

\*Aero. 3 may be taken five times for credit.

**Aeronautics—Pilot Technology**

*Associate in Science with a Major in Pilot Technology*

This major is designed especially for the student who already possesses a commercial pilot, instrument, and multi-engine license or an airline transport pilot license. Upon application to the Aeronautics Department, a student may receive eleven units of credit toward an Associate in Science degree in Pilot Technology. In addition, the student must take an additional ten units from the selected electives listed below.

<b>Requirements</b>	<b>Semester Units</b>
Commercial, instrument, and multi-engine license or air transport license .....	(equivalent) 11

**Select 12 units from following courses**

Aero. 5, Aero. 7; Meteorology 1 or 10; Electronics 14; Business 10; Technology 71; Physics 10; Astronomy 10 .....	12
	Total 23

If a student wishes to obtain an A.A. or A.S. degree in some other major, the eleven units may apply toward elective credit.

**Agriculture**

**Transfer Program**

Recommended High School Preparation: Chemistry, Physics, Elementary Algebra, Intermediate Algebra, Geome-

try, Trigonometry, Mechanical Drawing, two years in one foreign language.

The student who intends to transfer a major in Agriculture should plan a course at College of San Mateo to meet the general requirements for junior standing, as well as the lower division requirements of the specific college or university.

### Apprenticeship — Trade Related

Related training classes for apprentices are offered. (See Trade and Industrial courses.)

### Archaeology

See Anthropology courses.

### Architecture — Architectural Engineering, Landscape, City and Regional Planning

Students who plan to transfer to a university or college offering a professional program in Architecture should consult the catalog of the advanced institution of their choice, and then arrange a schedule of suitable transfer courses.

### Architecture

*Associate in Science Degree with a Major in Architecture*

Recommended High School Preparation: Academic program including Mathematics (4 years), Art (1 year), Mechanical Drawing (1 semester). Students should check course descriptions and prerequisites, and discuss recommended sequence with counselors. Courses listed below are transfer requirements; those marked with an asterisk are A.S. degree requirements.

Requirements	Semester Units
Architecture 10, 11*, 12*, 15a-15b, 16, 17, 18, 21*, 22*, 23*, 24*	33

**Suggested Electives:** Architecture 1a, 7a-7b, 13; Mathematics — by eligibility; Physics 2a-2b.

General Education and other requirements for the A.S. degree: see Pages 61-62.

### Art

*Associate in Arts Degree with a Major in Art*

Requirements	Semester Units
Art 2a, 5a, plus 12 units from courses in the Arts Department	18

General Education and other requirements for the A.S. degree: see Pages 61-62.

### Art — Commercial

*Associate in Arts Degree with a Major in Commercial Art*

Recommended High School Preparation: Design, Drawing, Painting and Poster Service.

Career Opportunities: Commercial artists may be employed in advertising, manufacturing, public relations or communications. Experienced artists frequently specialize in a particular product or field such as fashion, industrial art, advertising, story illustration or interior design.

Requirements	Semester Units
Art 2a-2b, 5a, 12a, 15, 51, 52	21
<i>Students should check course descriptions and prerequisites, and discuss recommended sequence with counselors.</i>	
Technical Art/Graphics 65a	2

**Suggested Electives:** Art 3a, 4, 5b, 6a, 7a, 62; Business 12; Guidance 10; Science; Speech 1a.

General Education and other requirements for the A.A. degree: See Pages 61-62.

### Art — Interior Design

*Associate in Arts Degree with a Major in Interior Design*

Requirements	Semester Units
Art 80, 81, 82, 83, 84, 85a, 85b, 87	24

**Suggested Electives:** Art 1a, 1b, 1c, 2a.

General Education and other requirements for the A.A. degree: See Pages 61-62.

*Certificate Program*

Requirements	Semester Units
Art 81, 82, 83, 84, 85a, 87	21

**Suggested Elective:** Art 85b.

### Art — Painting

*Associate in Arts Degree with a Major in Painting*

Requirements	Semester Units
Art 2a-2b, 3a, 6a, 7a, 15, 17a, 22	24

*Students should check course descriptions and prerequisites, and discuss recommended sequence with counselors.*

**Suggested Electives:** Art 1a, 1b, 1c, 23.

General Education and other requirements for the A.A. degree: See Pages 61-62.

## Art — Photography

Associate in Arts Degree with a Major in Photography

Requirements	Semester Units
Art 2a or 5a, 40, 41a-41b-41c, 43a-43b .....	21

**Suggested Electives:** Art 1a, 3a, 17a; Technical Art/Graphics 65a-65b; Fine Arts 15a; Telecommunications 70.

General Education and other requirements for the A.A. degree: See Pages 61-62.

## Building Inspection

Certificate Program

Students may apply for a Certificate in Building Inspection upon completion of 24 units from the following courses.

Requirements	Semester Units
63b, 63c, 63d, 63e, 63f .....	15-18

Select 6-9 units from following courses: Technology 73;  
 Building Inspection 63a, 63b, 63c, 63d, 63e, 63f..... 15-18  
 Total 24

## Business Administration

Transfer Program

Recommended High School Preparation: Elementary Algebra, Intermediate Algebra, Plane Geometry, Trigonometry, Chemistry of Physics, Foreign Language. If student has not completed Intermediate Algebra in high school, he/she should take Math 19 or 20.

For information concerning the transfer requirements of other colleges and universities, students should consult the catalog of the colleges and universities concerned, or their College of San Mateo Counselor.

Associate in Arts Degree with a Major in Business Administration

The curriculum is for the student who wishes to major in general business. Students should check course descriptions and prerequisites, and discuss recommended sequence with counselors.

Requirements	Semester Units
<b>Option 1</b> —Bus. Ad. 1a-1b, 18a, 20; Bus. 2 .....	19
<b>Option 2</b> — Bus. 8a, 10, 51, 66 or Bus. Ad. 1a; Bus. 93; Bus. Ad. 18a, 20 or Data Proc. 50 .....	20-21

**Suggested Electives:** Option 1 — Econ. 1a, 1b; Option 2 — Bus. 11, 24, 70a, 81, 82.

Courses listed in Option 1 are transfer requirements. Those listed in Option 2 are A.A. degree requirements.

General Education and other requirements for the A.A. degree: See Pages 61-62.

## Business

Career Programs

The following major programs are designed to qualify a student, upon completion of a curriculum, for employment in an area of specialization. The development of business skills which can be utilized for immediate employment is emphasized, with general courses offered to provide a background for future promotion in the chosen occupational area.

Students graduating with a major in the field of Business must meet the following subject requirements:

**Mathematics**—A percentile rating of at least 35 of the quantitative part of the SCAT entrance examination, or completion of Bus. 50 with a grade of C or better. It is recommended that Bus. 50 be completed by the end of the second semester.

**Business 10**—Introduction to Business.

## Business—Banking

American Institute of Banking Certificate Programs

Bank Operations

Requirements	Semester Units
Bus. 8a, 30, 50 or 51; Bus. Ad. 18a; Data Proc. 50; Mgmt. 54 .....	18

Select 6 units from following courses: Bus. 56, 91, 92.1, 93;  
 Mgmt. 50, 80, 92; Speech 10 .....

Total	24
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Credit and Lending

Requirements	Semester Units
Bus. 31, 32; Bus. Ad. 1a-1b; Econ. 1a-1b.....	20

Select 3 units from following courses: Bus. 35, 56, 93;  
 Bus. Ad. 18a; Mgmt. 50, 63.....

Total	23
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## Business—Clerical

Associate in Arts Degree with a Clerical Major

Recommended High School Preparation: Typing, General Office Procedures, Business English, Introduction to Business, Business Math, Recordkeeping, Business Law.

Career Opportunities: Students primarily develop general skills and knowledge which are essential for making a living. These students may be employed in various entry-level positions for a career in business such as file clerks, receptionists, typists, bank tellers, and account clerks.



To meet the major requirements for the Associate in Arts degree, the student should plan a program to include any needed prerequisites for the core courses.

Requirements	Semester Units
Business 10, 51, 91, 92.5, 93, 94, 96 .....	17
Electives from following list .....	7
Total	24

See page 78 for Business Division's Mathematics requirement.

**Electives:** Business 8a, 59L, 90.1, 90.3, 90.5, 90P, 92.5, 92.8, 92.11, 93, 94, 100a, 102; Medical Assisting 59.

General Education and other requirements for the A.A. degree: See Pages 61-62.

### Business—Clerical

#### Certificate Program

Students may apply for a Clerical Certificate upon completing the A.A. degree major requirements with a C grade in each course.

### Business—Data Processing

#### Associate in Arts Degree with a Major in Data Processing

Requirements	Semester Units
Data Proc. 50, 51, 52, 53a-53b, 54 .....	23
Bus. Ad. 1a or Bus. 66 .....	4
Total	27

Students should check course descriptions and prerequisites, and discuss recommended sequence with counselors.

**Select 6 units from following courses:** Bus. 2, 8a, 10, 24, 50 or 51, 56, 65; Data Proc. 20, 25, 49, 55, 56, 97, 106; Bus. Ad. 1b; Econ. 1a, 1b.

General Education and other requirements for the A.A. degree: See Pages 61-62.

#### Computer Operator Certificate Program

Students may apply for this certificate upon completion of Data Processing 50, 51, 52, and 53a.

#### Computer Programmer Certificate Program

Students may apply for this certificate upon completion of Data Processing 50, 51, 52, 53a-53b, and 54.

#### Key Data Entry Certificate Program

Students may apply for this certificate upon completion of Data Processing 97 with minimum speed of 8000 keystrokes per hour, less than 2% error rate, and ability to program and operate key-to-disk equipment.

### Business—Escrow

#### Associate in Arts Degree with a Major in Escrow

The California Escrow Association recommends 24 units of required core courses and 12 units of suggested electives for the A.A. degree. See the Real Estate Department counselor for guidance regarding these courses and for information regarding the Escrow Certificate. See Escrow brochure for program details.

Requirements	Semester Units
Bus. 145*, 145d, 145e, 83a*, 87, 88, 50 or 51 (or a mathematics class—Math.19 or better), 56, 10.....	24

**Select 12 units from following courses:** Bus. 8a, 66 or Bus. Ad. 1a, Bus. 82a, 85, 92.2, 111 or 11, 131, 134 or 135, 138; Bus. Ad. 18a; Econ. 1a or 1b; Psych. 1a; Speech 1a or 10.....12

General Education and other requirements for the A.A. degree: See Pages 61-62.

If a person has already earned an A.A. degree in Real Estate and wishes to earn a second A.A. degree in Escrow, it may be done by completing the three Escrow courses, Business 56, and 6 additional units taken from Real Estate. Please consult the College catalog or a Real Estate counselor for additional information.

#### Professional Certificate Program

The Escrow Certificate requires completion of eight courses or 24 units of required courses and suggested electives. Units earned in the certificate program will fulfill the major requirements for the A.A. degree with a major in Escrow. See Escrow brochure for program specifics.

Requirements	Semester Units
Bus. 145b*, Bus. 145d, Bus. 145e, Bus. 83a*, Bus. 87, and Bus. 88 .....	18

**Select 6 units from following courses:** (as recommended by California Escrow Association) Bus. 8a, 50, or 51, 56, 66 or Bus. Ad. 1a, Bus. 82a, 85, 92.2, 131, 134 or 135, 138, 142 or Cooperative Ed.\*\*..... 6

Total 24

If the Escrow Certificate is earned following the Real Estate Certificate, the 6 units of selected electives must be taken from the category listed above, excluding any that have been utilized to earn the Real Estate Certificate.

\*At recommendation of the Real Estate Counselor and approval of Instructor of Bus. 145d, Bus. 145b may be by-passed; or at the recommendation of the Counselor alone, Bus. 83a may be by-passed, provided equivalent units of the suggested electives are completed.

\*\*Verify with Real Estate Dept. Counselor requirements for Work Experience Program.

NOTE: CSM's Escrow Certificate Program has been approved for official certification by CEA (California Escrow Association). Check with the Real Estate Department Counselor for further details.

## Business—Legal Secretarial

### Associate in Arts Degree with Legal Secretarial Major

Recommended High School Preparation: Typing, Shorthand, Business English, Business Arithmetic and Office Machines.

Career Opportunities: The legal secretary may be employed in a small one-girl office where the work will be varied and interesting. Secretaries in large law firms may specialize in areas such as domestic relations, probate, collections or breach of contract suits and may become specialists themselves. There are many government positions for legal secretaries in this area.

Requirements	Semester Units
Business 10, 51, 59L, 67, 90L, 91, 92.8, 94L, 96, 100a .....	25
Electives from the following list .....	2
Total	27

See page 78 for Business Division's Mathematics requirements.

Requirements for the degree in excess of 18 units may be counted toward General Education requirements for graduation.

**Electives:** Business 8a, 59L, 90.1, 90.3, 90.5, 90P, 92.5, 92.8, 92.11, 93, 94, 100a, 102; Medical Assisting 59.

General Education and other requirements for the A.A. degree: See Pages 61-62.

#### Certificate Program

Students may apply for a Legal Secretarial Certificate upon completing the A.A. degree major requirements with a C grade in each course.

## Business — Management

### Associate in Arts Degree and Certificate Programs

The Certificate in Management can be earned in any one of four areas: Business Management, Small Business Management, Industrial Management, and Marketing Management. The certificate will be awarded by College of San Mateo upon completion of the required courses, plus additional electives totaling a minimum of 24 units. Most of these courses carry three units of lower division college credit. The 24 units earned in the certificate program will fulfill the major requirements for an Associate in Arts degree.

The courses are all general in nature and practical in application; the program is designed for persons working at the supervisory level or for those interested in supervisory positions. An advisory committee composed of representatives from various types of business and industrial organizations has assisted the College staff in the development of the program.

Under some circumstances, parallel courses completed at other institutions may be applied toward the certificate upon submission of transcripts or official verification of records.

#### Business Management

Requirements	Semester Units
Data Proc. 50, Management 65, 92, 99 .....	12
<b>Select 12 units from following:</b> Bus. 8a, 24; Management 50, 52, 54, 61, 63, 96 .....	12
Total	24

#### Small Business Management

Requirements	Semester Units
Bus. 16, 65, 66, Management 99 .....	13
<b>Select 12 units from following:</b> Bus. 8a, 24; Bus. Ad. 18a, 18b; Management 50, 52, 65, 90 .....	12
Total	25

#### Industrial Management

Requirements	Semester Units
Management 65, 77, 92, 99 .....	12
<b>Select 12 units from following:</b> Bus. 2, 8a; Management 50, 52, 54, 61, 71, 85, 96 .....	12
Total	24

#### Marketing Management

Requirements	Semester Units
Bus. 24, 25; Management 91, 99 .....	12
<b>Select 12 units from following:</b> Bus. 12, 16; Bus. Ad. 18a, 18b; Data Proc. 50; Management 50, 54, 93 .....	12
Total	24

## Business — Medical Assisting

### Associate in Arts Degree with a Major in Medical Assisting

Recommended High School Preparation: Written and oral communication skills, typing, biology, psychology, and anatomy.

Career Opportunities for persons trained as medical assistants occur primarily in physicians' offices and clinics. Related positions, however, are found in hospitals, insurance companies, medical publishing firms, laboratories, and pharmaceutical firms.

To meet the major requirements for the Associate in Arts degree, the student should plan a program to include any needed prerequisites for the core courses.

Requirements	Semester Units
Biology 7 (this course fulfills the Natural Science requirement for graduation), Bus. 8a or Psych. 1a; Medical Assisting 57a, 59, 60, 94, 95, 100, 108	29
<i>See page 78 for Business Division's Mathematics requirement.</i>	

Select two courses from the following: Biology 23, 52; Bus. 8a, 56, 66, 91, 92.6, 92.7; Psych. 1a.

#### Certificate Program

Students may apply for a Medical Assisting Certificate upon completion of the following courses with grades of C or better: Biology 7, Bus. 8a or Psych. 1a, Bus. 10, 50 (if required by test), Bus. 92 (Intermediate Level) or equivalent, Medical Assisting 57a, 59, 60, 94, 95, 100, 108.

## Business — Merchandising

### Certificate Programs

#### Merchandising — General

Students may apply for a Merchandising — General Certificate upon completion of Business 8a, 10, 11, 12, 16, 24, 47 (6 units), 50 (if required by test).

#### Merchandising — Fashion

Students may apply for a Merchandising — Fashion Certificate upon completion of Business 10, 11, 12, 50 or 51 or equivalent; Consumer Arts and Sciences 15, 17, 18, 22, 24, 45, 48.

#### Merchandising — Management

Students may apply for a Merchandising — Management Certificate upon completion of Business 8a, 10, 11, 12, 16 or 24, 47 (6 units), 50 (if required by test), 66 or Business Administration 1a.

### Associate in Arts Degree with a Major in Merchandising

By completing the Certificate Program above and the General Education and other requirements for the A.A. degree, (pages 61-62), the student is eligible for both the Certificate in Merchandising and the Associate in Arts degree.

## Business — Real Estate

### Associate in Arts Degree with a Major in Real Estate

Requirements	Semester Units
Business 10 or Management 99; Bus. *50 or 51; Bus. 83a or 84 or license equivalent; Bus. 85, 87, 88, 131 (if not substituted by 83a); Bus. 134 or 135	18-21

*Contact Real Estate Department for recommended course sequence.*

\*Business 50 or 51 will be waived with a percentile rating of at least 35 on the quantitative part of SCAT entrance examination, or completion of a higher mathematics course (Math, 19 or better).

**Suggested Electives:** Business Administration 1a or Business 66; Economics 1a-ab; Architecture 10; Business 8a, 12, 56, 65, 82a, 92.1; Business Administration 18a; Data Processing 50; Psychology 1a.

General Education and other requirements for the A.A. degree: See Pages 61-62.

### Professional Certificate Program

**Basic Training Required:** Business 83a, 84.

**Professional Courses Required:** Prerequisite: A Real Estate Broker's or Salesman's License, or completion of Business 83a and 84 or equivalent. Business 85 or 83b, 87, 88, 131 or 83a, 134 or 135.

**Advanced Professional Elective Courses:** Three of the following are required: 111, 112, 113, 114, 135, 136, 139, 140, 141, 142.

**Special Professional Courses:** (These may be used for Certificate credit also.) Business 145a, 145b, 145c, 145d, 145e.

## Business—Secretarial

### Associate in Arts Degree with a Secretarial Major

Recommended High School Preparation: Typing, Shorthand, Business English, Business Arithmetic and Office Machines.

To meet the major requirements for the Associate in Arts degree, the student should plan a program to include any needed prerequisites for the core courses.

**Career Opportunities:** A secretary with shorthand skill may be employed to transcribe dictation given in a variety of business and industrial vocabulary. With the shorthand skill, one may qualify for a wider variety of positions.

A secretary with Machine Transcription as the major emphasis may be employed in office positions that use taped dictation in meeting the correspondence needs. Machine transcription duties require good typing skills and strong English grammar and punctuation skills in addition to a familiarity with many office duties.

Word Processors are in demand in law offices, medical facilities, engineering, architectural and construction firms, and in educational institutions and government offices, to name a few. Opportunities in business and industry are far more numerous than the number of trained operators in the field, and the need for competent personnel is expected to expand dramatically through the 1980's. Duties of the Word Processor include making decisions regarding the wording of business documents; therefore, aptitude in the fundamentals of Business English is essential.

Requirements	Semester Units
<b>Option 1—Shorthand Specialty</b>	
Bus. 10, 51, 56, 67 (or Bus. 66 or BUAD 1a) 91, 92.8, 96, 100a .....	22-23
Electives from following list .....	4- 5
Total	27
<b>Option 2—Machine Transcription Specialty</b>	
Bus. 10, 51, 56, 67 (or Bus. 66 or BUAD 1a) 91, 92.8, 94, 96, 100a .....	24-25
Electives from following list .....	2- 3
Total	27
<b>Option 3—Word Processing Specialty</b>	
Bus. 10, 51, 56, 67 (Bus. 66 or BUAD 1a) 91, 94, 96, 102 .....	23-25
Electives from following list .....	2- 4
Total	27

**Electives:** Bus. 8a, 59L, 90.1, 90.3, 90.5, 90P, 92.5, 92.8, 92.11, 93, 94, 100a, 102; Medical Assisting 59.

See page 78 for Business Division's Mathematics requirement.

Requirements for the degree in excess of 18 units may be counted toward General Education requirements for graduation.

**Certificate Programs**

Students may apply for a Secretarial Certificate in each specialty (Shorthand, Machine Transcription or Word Processing) upon completion of the A.A. degree major requirements listed in the three options above. Courses must be completed with a C grade or better.

**Business—Transportation**

*Associate in Arts Degree with a Major in Transportation*

Career Opportunities: A relatively new field in business, Transportation offers an unlimited future in rail, motor, marine and air transportation, plus the field of traffic management. Numerous positions are offered in personnel, public relations, trade development, promotional services and management.

Requirements	Semester Units
Bus. 10, 70, 71, 72, 74 .....	15
Bus. Ad. 1a or Bus. 66 .....	4
Econ. 1b or Mgmt. 65 .....	3

Select two courses from the following: Bus. 11, 73, 75, 76, 77. Bus. Ad. 18a.

General Education and other requirements for the A.A. degree: See Pages 61-62.

*Certificate Program*

Requirements	Semester Units
Bus. 70, 71, 72, 74, 75 .....	15

Select three courses from the following: Bus. 11, 47, 73,76,77.

**Chemistry**

*Associate in Science Degree with a Major in Chemistry*

Requirements	Semester Units
Chemistry 1a-b, 5, 12a, 12aL .....	19
General Education and other requirements for the A.A. degree: See Pages 61-62.	

**Community Education**

College of San Mateo Community Education schedules each semester a variety of short courses, film series, public forums, lecture series, small group discussions, institutes, concerts and similar educational and cultural programs for the public at large. To obtain a brochure listing current Community Education events, telephone the Community Education Office, 574-6445.

**Consumer Arts and Sciences**

**Transfer Program**

*Associate in Arts Degree with a Major in Consumer Arts and Sciences*

The student who intends to transfer a major in Consumer Arts and Sciences should plan a course at College of San Mateo to meet the general requirements for junior standing, as well as the lower division departmental requirements, of the specific college or university the student plans to attend. This program aids the student in dealing with the responsibilities of self, family and the professional world that affect the many hours not structured by job assignments.

Requirements	Semester Units
Consumer Arts and Sciences, 5, 9, 22, 45, plus eight additional units of C.A.S. courses .....	18

General Education and other requirements for the A.A. degree: See Pages 61-62.



**Career Opportunities:** A major in Consumer Arts and Sciences will prepare a student for occupations in the field of clothing design, construction and merchandising, in foods preparation and management and in interior furnishing and consumer problems, in jobs such as airline hostess, merchandising in clothing and furniture stores, dietetic assistants in hospitals, nursing homes, as well as practical experience relevant to the daily operation of a household.

*Associate in Arts Degree with a Major in Fashion Merchandising*

The Fashion Merchandising curriculum is a study of the ready-to-wear apparel industry with consideration of the various factors (economical, political and societal change), which affect the merchandising of fashion apparel.

Requirements	Semester Units
Consumer Arts and Sciences 15, 17, 18, 22, 24, 45, 48 .....	18
Business 10, 11, 12, 50 or 51 or equivalent.....	12

General Education and other requirements for the A.A. degree: See Pages 61-62.

*Certificate Program – Fashion Merchandising*

Requirements	Semester Units
Consumer Arts and Sciences 15, 17, 18, 22, 24, 45.....	18
Business 10, 11, 12, 50 or 51, or equivalent.....	12
Total	30

### Cooperative Education

Cooperative Education gives the student field experience which is related to the major. There are three basic programs. The Parallel Program operates concurrently with the daily studies. Through a program of work and study, the relationship between theory and practical application is established. The Alternate Semester Plan provides the student with full-time field experience for one semester. The other semester is spent in school. The New Careers Plan is for students who are working full time and taking evening classes related to their career goals. Further information is available in the lower level of the Library, phone 574-6171.

### Cosmetology — Cosmetologist

Tenth grade completion or equivalent is required by State Law. Students must be 17 years of age to be eligible for State Examination.

The cosmetology program consists of 1600 hours training in theory and practical skills in all phases of beauty culture. Units are based on hours in attendance. Students may qualify for the Associate in Arts degree.

**Note:** High school students may enroll in cosmetology training at College of San Mateo in their junior or senior year by contacting their respective schools and the Cosmetology Department.

**Priorities for Admission** (1) San Mateo County residence. (2) High school graduation or equivalent; 18 years of age or older. (3) Early application. (4) Completion of all admission requirements to the College of San Mateo. (5) Admission to the Cosmetology program. Contact the Health and Service Careers Division (574-6323) for application information.

*Associate in Arts Degree with a Major in Cosmetology*

Requirements	Semester Units
Cosmetology 50, 51 .....	40
Business 50 or 51 .....	3

**Suggested Electives:** Art 63a; Business 8a, 66; Cosmetology 52, 90; Psychology 1a; Sociology 1; Speech 10.

General Education and other requirements for the A.A. degree: See Pages 61-62.

*One-Year Certificate Program*

This program prepares the student for employment upon completion of 1600 hours.

Requirements	Semester Units
Cosmetology 50 .....	Variable to 18
Cosmetology 51 .....	Variable to 18

### Special Courses in Cosmetology

**Cosmet. 52** — Cosmetology (for brush-up), units to be determined; Refresher course — upgrading persons who hold California Cosmetologist License, or for out-of-state Cosmetologists in preparation for California State Board of Cosmetology Examination.

**Cosmet. 53** — Manicurist, units to be determined: 350 hours prepares a special manicurist to take the California State Board of Cosmetology Examination and subsequent employment in this field only.

**Cosmet. 54** — Wig Stylist, units to be determined: 400 hours prepares a special wig stylist to take the California State Board of Cosmetology Examination and subsequent employment in this field only.

**Cosmet. 90** — Advanced Workshop, 1 unit. (Offered in the evening.)

### Dental Assisting

*Associate in Science Degree with a Major in Dental Assisting*

**Admission Requirements:** To be eligible for enrollment in the Dental Assisting programs, the applicant must (1) be a

high school graduate; (2) have completed one year of high school Math or Algebra and one year of typing or their equivalent with a C grade or better; (3) attain placement in English 61 or eligibility for English A; (4) be admitted to the college and have a C average in all completed college courses; (5) be admitted to the Dental Assisting program. Contact the Health and Service Careers Division for application information.

**Priorities for Admission:** (1) San Mateo County residence. (2) High school graduation or equivalent. (3) Priority ranking as established by random lottery.

Requirements	Semester Units
Dental Assisting 51a-b through 56a-b .....	33
Business 50, 92.1 or equivalent .....	3-6

**Select three units from following:** Psychology 10; Sociology 1, 6; Speech 10 .....

General Education and other requirements for the A.A. degree: See Pages 61-62.

*One-Year Certificate Program*

**Admission Requirements:** To be eligible for enrollment in the Dental Assisting program, the applicant must (1) be a high school graduate; (2) have completed one year of high school Math or Algebra and one year of typing or their equivalent with a C grade or better; (3) maintain placement in English 61 or eligibility for English A; (4) be admitted to the college and have a C Average in all completed college courses; (5) be admitted to the Dental Assisting program. Contact the Health and Services Careers Division for application information.

**Priorities for Admission:** (1) San Mateo County residence; (2) High school graduation or equivalent; (3) Priority ranking as established by random lottery.

First Semester	Semester Units
Dental Assisting 51a, 52a, 53a, 54a, 55a, 56a .....	16

Second Semester	Semester Units
Dental Assisting 47, 51b, 52b, 53b, 54b, 55b, 56b .....	17

*Certificates*

The Collge of San Mateo Dental Assisting Certificate will be awarded to all students completing Dental Assisting required courses with a grade of C or better.

Upon successful completion of either program with a grade of C or better in all courses required for the certificate, the student is eligible to take the National Certification Examination to become a Certified Dental Assistant, and the California Registration Examination to become a Registered Dental Assistant.

## Drafting Technology

*Associate in Science Degree with a Major in Drafting Technology*

Recommended High School Preparation: Elementary Algebra, Mechanical Drawing. Students should check course descriptions and prerequisites, and discuss recommended sequence with counselors.

Requirements	Semester Units
Drafting Technology 52a-52b, 62a-62b .....	20

**Suggested Electives:** Data Processing 50.

General Education and other requirements for the A.A. degree: See Pages 61-62.

*Certificate Program—Day*

A Certificate of Completion may be earned by completing the A.S. major requirements with a G.P.A. or 2.0 or better and no grade lower than a C.

Requirements	Semester Units
Drafting Technology 51a, 51b, 63; Elec. Tech. 14; Tech. 71, 72, 74, 79 .....	42

*Certificate Program—Evening*

A Certificate of Completion in Drafting Technology may be issued to those students who complete the following courses with a G.P.A. of 2.0 or better.

Requirements	Semester Units
Drafting Technology 14 or 102a; 102b, 112a, 112b, 122; Electronics Technology 14; Machine Tool Tech. 102a; Physics 10; and one of the following: Math. 21, 27, or 55 .....	28

**Career Opportunities:** Technical draftsmen are employed in manufacturing and construction industries in the area. They should therefore be technically trained in order to be adaptable to all types of industry. Many draftsmen advance to positions in the upper levels of industry.

## Drama

### Transfer Program

*Associate in Arts Degree with a Major in Drama*

Drama majors should check requirements for transfer in junior standing to the college of their choice, or consult with their College of San Mateo counselor.

Requirements	Semester Units
Drama 1a, 1b, plus twelve units from Drama 10, 12a, 12b, 13, 14a, 14b, 26 .....	18

**Suggested Electives:** Drama 15, 16, 17; English 25; speech 33, 2a; Physical Education — Dance, Fencing, Ballet.

General Education and other requirements for the A.A. degree: See Pages 61-62.

## Early Childhood Education

The Early Childhood Education program is designed to prepare instructional personnel for work in a variety of programs for young children. In addition, it will provide an opportunity for the student to meet the requirements (provisional or postponement) authorizing service in children's centers under State of California Health & Welfare Title 22 and Education Code Title 5.

Nursery schools associated with the College of San Mateo and participating in the program are located in San Mateo and Millbrae.

A Basic Certificate, an Advanced Certificate and an A.A. Degree program are available.

*Associate in Arts Degree with a Major in Early Childhood Education*

Requirements	Semester Units
E.C.E. 2, 3, 4, 5, 6, 7, and field work .....	18
Psychology 1a or 5 .....	3

**Select one course from following:** Anthropology, Art, Education, Consumer Arts and Sciences (Nutrition), Life Science, Music, Sociology..... 3

General Education and other requirements for the A.A. degree: See Pages 61-62.

### Certificate Programs

A Basic Certificate, an Advanced Certificate and an A.A. degree program is available. Certificates will be awarded to all students completing the required courses with a C grade or better. The Basic Certificate fulfills the requirements for teaching in a day nursery school, the Advanced Certificate fulfills the requirement for a director in a day nursery school, and the A.A. degree fulfills the essentials for postponement of requirements authorizing service in a children's center.

Requirements for Basic Certificate	Semester Units
Early Childhood Education 2, 3, 4, 5 .....	12
Total	12

Requirements for Advanced Certificate	Semester Units
Basic Certificate .....	12
E.C.E. 6, 7 .....	6
Psych. 1a or Psych. 5 .....	3
Electives .....	3
Total	24

**Select one course from the following:** Anthropology, Art, Education, Consumer Arts and Sciences (Nutrition), Life Science, Music, Sociology.

## Education

### Transfer Program

Students who are planning for a career in teaching will concentrate on meeting the General Education requirements of the college they plan to attend. The program of courses recommended for a student who plans to teach will, to a considerable degree, depend upon the credential sought and the teacher education college the student plans to attend.

Students seeking a teaching credential should carefully plan their program with the assistance of their counselor.

### Education—Teacher Assistant

*Associate in Arts Degree with a Major in Teaching Assisting*

This program prepares the student to serve as a paraprofessional member of the teaching team. Teacher assistants work under the direction of a professional teacher. They perform a wide variety of tasks in the schools.

Requirements	Semester Units
Education 1, 2 and 3 .....	9
Business 92* .....	3
Speech 10, 1a or 33 (by advice of counselor) .....	3
Psychology 1a, or 5 or 10 (by advice of counselor) .....	3
Cooperative Education field experience .....	3
Total	21

\*If student has typing competency, another 3-unit elective is required.

**Electives:** Biology 40, Business 100a; Library Technology 55, 57; Mathematics 16; Music 8; Physical Science; Life Science; Spanish.

### Certificate Program

Requirements	Semester Units
(from the foregoing list of required courses) .....	21
<b>Suggested Electives</b> (from the foregoing list of suggested electives) .....	3
Total	24

Equivalent courses in Speech and Psychology, and a demonstrated competency in typing may be substituted for required courses. Additional courses will then be selected from the suggested electives to make up the total.

## Electronics Technology

*Associate in Science Degree with a Major in Electronics Technology*

Requirements	Semester Units
Electronics Technology 200, 230*, 250, 252, 260, 280, 300, 302, 310, 330.....	32

\*or Math. 20 or any math course for which Math. 20 is a prerequisite.

General Education and other requirements for the A.A. degree: See Pages 61-62.

The student will be required to purchase a set of prescribed personal tools at the beginning of the first semester.

#### Certificate Program

A Certificate of Completion will be issued to those students with a G.P.A. or 2.0 or better in the major requirements.

A Certificate of Proficiency will be issued to those students who successfully complete the A.S. major requirements plus the specialization electives listed below with a G.P.A. of 2.0 or better and with no grade lower than a C.

<b>Specialization Electives:</b> Electronics 350, 360, 362, 380	Total	45
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*Associate in Science Degree with a Major in Electronics Technology – Evening Session.*

Requirements	Semester Units	
Electronics Technology 230*, 710, 720, 730, 750.....	19	
plus two courses from the following.		
<b>Specialization Electives:</b> E.T. 280 and 330 (count as one course); E.T. 740, 751, 760, 765, 771.....	8	
	Total	27

\*or Math. 20 or any math course for which Math. 20 is a prerequisite.

General Education and other requirements for the A.A. degree: See Pages 61-62.

#### Certificate Program—Evening

A Certificate of Proficiency will be issued to those students who successfully complete the A.S. major requirements plus two additional specialization electives listed above with a G.P.A. of 2.0 or better and with no grade lower than a C.

Total 31-35

**Career Opportunities:** Electronics technicians are employed by several hundred electronics companies in the Bay Area where the demand far exceeds the supply. Many technicians have advanced to positions as production engineers, heads of departments and other positions of prestige and responsibility. Typical fields are industrial control systems, computers and data processing equipment, electronic instruments, communications, CATV, microwave installations and testing of all types of electronic equipment.

## Electronic Technology Course Equivalents — Day

The electronics technology curriculum has been revised for the school year 1978-79. Continuing students who have been taking electronics technology courses should refer to the following table to determine which new course requirements have been satisfied by which old courses:

### Old Course—satisfies requirements for—New Course

E.T. 51 .....	230
E.T. 52, 52L .....	200
E.T. 53 .....	280
E.T. 62, 62L .....	250 and 252
E.T. 63 .....	330 and 380
E.T. 64 .....	260
E.T. 71 .....	302
E.T. 72, 72L .....	300
E.T. 73, 73L .....	310 and 360
E.T. 82, 82L .....	350
E.T. 83, 83L .....	362
E.T. 102 .....	710
E.T. 105 .....	770
E.T. 106 .....	771
E.T. 122 .....	720
E.T. 132 .....	730
E.T. 133 .....	740
E.T. 134 .....	750
E.T. 135 .....	751
E.T. 143 .....	760

## Engineering

The basic Engineering program prepares for transfer to a four-year college or university in junior standing. Students should refer to the catalog of the college of their choice for special requirements; however, the following core subjects were approved unanimously by the Engineering Liaison Committee of the California Community Colleges, State Colleges and Universities, and the University of California.

The following courses will satisfy the Engineering Liaison Committee core program requirements: Mathematics (beginning with Analytic Geometry and Calculus and completing a course in Ordinary Differential Equations, 16 units); Chemistry (for engineers and scientists, 8 units); Physics (for engineers and scientists, 12 units); Statics (3 units); Graphics and Descriptive Geometry (3 units); Computers, digital (2 units); Orientation and Motivation (1 unit); Materials Science (3 units); Electrical Circuits and Devices (3 units); Electives to include Mathematics 25, Computer Programming (15 units).

### Transfer Program

*Associate in Science Degree with a Major in Engineering*



Recommended High School Preparation: Mathematics (four years, including one semester of Analytic Geometry); Chemistry (one year); Physics (one year); Mechanical Drawing (one year). Students should check course descriptions and prerequisites, and discuss recommended sequence with counselors.

Requirements	Semester Units
Engineering 4, 20*, 22*, 35*, 38*, 45* .....	15
Mathematics 25, 31, 32, 33, 34 .....	18
Chemistry 11a-11b or 1a-1b or 1a, 12a .....	8-10
Physics 4a-4b-4c .....	12

\*Plus 6 units from Engineering 1a, 1b; Mathematics 25, 31, 32, 33, 34, 35; Physics 4a, 4b, 4c and Chemistry 1a, 1b, 11a, 11b, 12a.

**Suggested Electives:** Engineering 1a; Mathematics 22, 24a, 24b, 35; Geology 1a.

General Education and other requirements for the A.A. degree: See Pages 61-62.

\*Courses listed above are transfer requirements; those marked with an asterisk are A.S. Degree requirements.

### Engineering Technology—General

Engineering Technology is that part of the engineering field which blends scientific and engineering knowledge with technical skills in research, development and production. The College offers the general education, mathematics, science, engineering, and many of the technical courses for the lower-division requirements in Engineering Technology. An articulation agreement with the state colleges and universities assures the BSET degree within two years after transfer to the four-year school.

#### Transfer Program

*Associate in Science Degree with a Major in Engineering Technology*

Requirements	Semester Units
Engineering 14, 16*, 17*, 20*, 22*, 45* .....	15
Mathematics 23a*-23b*, 25 .....	11
Chemistry 11a .....	4
Physics 2a-2b .....	8
Technical Elective .....	6

\*Plus 6 units from area of technology specialization and 8 units from Math. 23a-23b or Physics 2a-2b.

**Suggested Electives:** Technical courses; Business 66; Engineering 4; Mathematics 22, 24a, 24b.

General Education and other requirements for the A.A. degree: See Pages 61-62.

\*Courses listed above are transfer requirements; those marked with an asterisk are A.S. degree requirements.

### Engineering Technology—Electronics

#### Transfer Program (Cal Poly pattern)

*Associate in Science Degree with a Major in Engineering Technology-Electronics*

Requirements	Semester Units
Engineering 16*, 17*, 45* .....	9
Electronics Technology 200, 250*, 252*, 260*, 280, 300*, 310*, 330, 350*, 360*, 362*, 380 .....	39
(If evening courses ET 710, 720, 730 are substituted for corresponding day courses, additional units of technical electives must be included to make a total of 39 units.)	
Mathematics 23a*-23b* .....	8
Physics 2a-2b .....	8

**Suggested Electives:** Engineering 4; Mathematics 22, 24a, 24b, 25.

General Education and other requirements for the A.A. degree: See Pages 61-62.

\*Courses listed above are transfer requirements. Those courses marked with an asterisk are A.S. degree requirements.

### English

*Associate in Arts Degree with a Major in English*

Requirements	Semester Units
18 units from Humanities courses listed under Graduation Requirements, pages 61-62, with a minimum of 9 units from English courses (other than English 12) .....	18

General Education and other requirements for the A.A. degree: See Pages 61-62.

### Ethnic Studies

#### Transfer Program

*Associate in Arts Degree with a Major in Ethnic Studies*

The Ethnic Studies program is structured for the student who plans to major in the Social Sciences, Social Welfare, Humanities, Ethnic Studies or related areas in either a two-year program or as transfer to a four-year institution. Ethnic Studies courses are transferable as Social Science, Humanities, Electives or Ethnic Studies, depending upon the respective institution. In addition, Ethnic Studies courses allow public school teachers the opportunity to meet California State requirements in ethnic education. The multicultural emphasis of the department has attracted many persons currently employed in public school systems, social services and human relations, and professionals whose jobs involve interpersonal situations with multiracial groups.

<b>Requirements</b>	<b>Semester Units</b>
Ethnic Studies 1a and 1b plus 12 units from the following: Ethnic Studies 3, 4, 5, 6a, 6b, 7, 8, 11, 12, 14, 15, 16, 17, 18, 20, 25, 33a, 33b, 41, 42, 43, 44, 45, 46.....	18

General Education and other requirements for the A.A. degree: See Pages 61-62.

## Fine Arts—Filmmaking

*Associate in Arts Degree with a Major in Filmmaking*

Filmmaking majors should check requirements for transfer in junior standing to the college of their choice, or consult with their College of San Mateo Counselors.

<b>Requirements</b>	<b>Semester Units</b>
Fine Arts/English 15a-15b, 16a-16b; Fine Arts 17a-17b.....	18

General Education and other requirements for the A.A. degree: See pages 65-66.

## Fire Science

*Associate in Science Degree with a Major in Fire Science*

The Fire Science program is designed to give the student an opportunity to prepare to meet the high standards necessary in pursuing a career in fire service. It is recommended that the transfer student take the six core courses and one elective only, and concentrate in the area of general education for transfer to a junior standing in a four-year institution.

<b>Requirements</b>	<b>Semester Units</b>
Fire Science 50, 51a, 55*, 56, 62a, 66.....	18

**Select one course from following:** Fire Science or related course....3

General Education and other requirements for the A.A. degree: See Pages 61-62.

*Certificate Programs*

<b>Requirements</b>	<b>Semester Units</b>
A minimum of 12 units is required from the following courses: Fire Science 50, 51a, 53, 54, 55, 56, 61, 62a-62b, 63, 64, 65, 66, 67, 68a-68b and 3 units of electives.....	15

### Requirements for Advanced Certificate

A minimum of 24 units is required from the following courses: Fire Science 50, 51a, 53, 54, 55, 56, 61, 62a-62b, 63, 64, 65, 66, 67, 68a-68b and 6 units of electives.....	30
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A recommended sequence of courses is as follows: Fire Science 55\*, 66, 50, 56, 51a, 62a, elective.

### Requirements for Basic Fire Academy Certificate

Fire Science 70a, 70b.....	10
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\*In all Fire Science programs, Fire Science 55, Introduction to Fire Protection and Suppression, may be waived for those students who have three or more years of certified service as professional fire fighters. If Fire Science-55 is waived for this reason, another 3-unit Fire Science course must be substituted.

## Floristry

*Certificate Program*

See Horticulture Courses

## French

*Associate in Arts Degree with a Major in French*

<b>Requirements</b>	<b>Semester Units</b>
French language courses.....	18

Art 1c and History 4b may be accepted with Language Arts Division approval.

General Education and other requirements for the A.A. degree: See Pages 61-62.

## Geology

*Associate in Science Degree with a Major in Geology*

<b>Requirements</b>	<b>Semester Units</b>
Geology 1a-b; Oceanography 10; Chemistry 1a and Geology 6 or Paleontology 1.....	20

General Education and other requirements for the A.A. degree: See Pages 61-62.

## German

*Associate in Arts Degree with a Major in German*

<b>Requirements</b>	<b>Semester Units</b>
German language courses.....	18
English 14, History 46 and Philosophy 20c may be accepted with Language Arts Division approval.	

General Education and other requirements for the A.S. degree: see Pages 61-62.

## Horticulture

Five programs in Horticulture are available to interested students. These programs though similar, afford specific training geared to meet the individual requirement of the Horticulture student. Although these programs are designed to provide certification in Horticulture, it is possible to enroll in individual classes without regard to the certificate program. No prerequisites are required. Consult individual course listings under Horticulture.

### Horticulture—Environmental

*Associate in Arts Degree with a Major in Environmental Horticulture*

Requirements	Semester Units
Option 1, 2, or 3 below.....	18

**Suggested Electives:** Hort. 117, 118, 119, 120; Architecture 14; Business 11, 66.

General Education and other requirements for the A.S. degree: See Pages 61-62.

*Certificate Program (One-Year Day Program)*

Requirements	Semester Units
Option 1—Hort. 110a-110b, 111, 112, 113, 114.....	18
Option 2—Hort. 110a-110b, 111, 113, 114, 115.....	18
Option 3—Hort. 110a-110b, 111, 112, 114, 116.....	18

### Horticulture—Floristry

*Certificate Program (One-Year Day Program)*

Requirements	Semester Units
Horticulture 112, 116, 117, 119.....	12

### Horticulture—Ornamental

*Associate in Arts Degree with a Major in Ornamental Horticulture*

Requirements	Semester Units
Horticulture 95a-b, 93, 94, plus 4 units from 90a-b-c-d-e-f, plus 12 units from Horticulture 91a-b, 96a-b, 97a-b, 98a-b.....	24

General Education and other requirements for the A.S. degree: See Pages 61-62.

*Certificate Program—Evening*

Requirements	Semester Units
Horticulture 95a-95b, 93, 94, 90a-90b, or 90c-90d, or 90e-90f, plus 12 units from Horticulture 91a-91b, 96a-96b, 97a-97b, 98a-98b.....	24

## Horticulture—Vocational Gardening

*Certificate Program—Evening*

Requirements	Semester Units
Horticulture 130a-130b, 132a-132b, 135a-135b.....	6

## Humanities

*Associate in Arts Degree with a Major in Humanitiès*

Requirements	Semester Units
Humanities courses..... (listed under Graduation Requirements on Pages 61-62)	18

General Education and other requirements for the A.A. degree: See Pages 61-62.

## Journalism

*Associate in Arts Degree with a Major in Journalism*

Requirements	Semester Units
Journalism 1, 2, six units from Journalism 15 and 16; and six units from English courses listed under Humanities.....	18

General Education and other requirements for the A.S. degree: See Pages 61-62.

## Liberal Studies

*Associate in Arts Degree with a Major in Liberal Studies*

Students should confer with a counselor and refer to the catalog of the college of their choice for special requirements in specific fields.

Requirements	Semester Units
Eighteen units selected from the lists provided under Graduation Requirements (pages 65-66) for Natural Sciences, Social Science, and Humanities, with at least 3 units in each area.....	18

General Education and other requirements for the A.S. degree: See Pages 61-62.

## Library Technology

*Certificate Program*

A Certificate of Proficiency is awarded upon successful



completion (with grade C or better) of 24 units in the following courses.

Requirements	Semester Units
Library Technology 51, 52, 53, 54, 55 .....	15

**One course from each of the following groups:**

English 11, 61, 63, 65;	
Bus. 8a; Management 92; D.P. 50;	
Speech 1a; Lib. Tech. 56, 57 .....	9

Typing will be required in courses and future employment. Students must verify typing ability of at least 35 words per minute in order to complete the certificate program.

## Life Sciences

### Transfer Program

Recommended High School Preparation: Biology (1 year); Chemistry 1 year; Physics (1 year); Mathematics—(Algebra, 2 years; Geometry, 1 year; Trigonometry, 1 semester).

For those students wishing to major in Biological Science or Medical Science who have little or no high school preparation in one or more of the above subjects, the following courses should be completed prior to attempting courses in the major sequence: Biology 2; Chemistry 51; Math. 10, 11 or other appropriate level of Math; Physics — Math. 11 or 21.

The programs outlined below are typical of requirements to transfer in junior standing to a four-year college or university. In order to meet the requirements of specific institutions, the students should refer to the catalog of the college of their choice.

### Life Sciences—Biological

*Associate in Science Degree with a Major in Biological Sciences*

(Botany, Forestry, Marine Biology, Zoology, etc.)

Requirements	Semester Units
Biology 21*, 22*, 27* .....	14
Chemistry 1a*, 1b, 12a-12b .....	16
Biology Electives (excluding Biology 1 and 2) .....	4-12
Mathematics 20, 21 (or equivalent) .....	1-6
Science Electives (Physics 2a-2b or Physics 4a, 4b, 4c .....	8-12

General Education and other requirements for the A.S. degree: See Pages 61-62.

\*Courses listed above are transfer requirements. Those courses marked with an asterisk are A.S. degree requirements.

### Life Sciences—Medical

*Associate in Science Degree with a Major in Medical Sciences*

(Pre-Med., Pre-Dental, Pre-Vet., Medicine, etc.)

Requirements	Semester Units
Biology 21*, 27* .....	9
Biology electives (Biology 23, 24, 25) .....	4-12
Chemistry 1a*, 1b*, 12a-12b .....	15-20
Mathematics 23a-23b or 30, 31, 32 .....	8-12
Physics 2a-2b or 4a, 4b, 4c .....	8-12

General Education and other requirements for the A.S. degree: See Pages 61-62.

\*Courses listed above are transfer requirements. Those courses marked with an asterisk are A.S. degree requirements.

### Life Sciences—Pre-Nursing

#### Transfer Program

*Associate in Science Degree with a Major in Pre-Nursing*

Requirements	Semester Units
Biology 23*, 24*, and 26 or 25* .....	13-14
Biology Elective (excluding Biology 1 and 2) .....	4
Chemistry 1a-1b*, or 30a-30b* .....	8-10
Science Electives (Physics 2a-2b or 10) .....	3-8

General Education and other requirements for the A.S. degree: See Pages 61-62.

\*Courses listed above are transfer requirements. Those courses marked with an asterisk are A.S. degree requirements.

Students should refer to the catalog of the institution at which they plan to take their formal nursing training for other specific requirements.

### Machine Tool Technology

*Associate in Science Degree with a Major in Machine Tool Technology*

Recommended High School Preparation: General mathematics, drafting, metals shop, and related courses. Students should check course descriptions and prerequisites and discuss recommended sequence with counselors.

Requirements	Semester Units
Machine Tool Technology 51a-b, 52, 52L, 53, 53L, 62, 62L, 63, 63L or 100, 110, 111, 120, 121, 210, 211, 220, 221, 230, 700, 701, 710, 711, 720, 721 .....	21
Welding Technology 75 .....	2



General Education and other requirements for the A.A. degree: See Pages 61-62.

Students will be required to maintain a personal set of tools.

**Certificate Program—Day**

A Certificate of Completion may be earned by completing the major requirements with a G.P.A. of 2.0 or better.

**Certificate Program—Evening**

A Certificate of Completion may be earned by completing the following courses with a G.P.A. of 2.0 or better:

Machine Tool Technology 100, 590, 750, 755, 760.....	11 Units
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Those students who successfully complete the above curriculum will be eligible to receive the Certificate of Proficiency in Machine Tool Technology.

**Career Opportunities:** The machine tool technician is a vital figure in any manufacturing industry. He or she must work from blueprints, understand manufacturing processes and fabricate necessary parts through the use of lathes, mills, drills, grinding, numerical control programing and many other processes.

**Mathematics**

**Transfer Program**

College of San Mateo offers a wide variety of courses for students who wish to major in Mathematics, enabling them to transfer to a university or four-year college at the end of the sophomore year. Students should consult the catalog of the college of their choice for special requirements.

**Recommended High School Preparation:** Four years of high school level Mathematics, Physics (one year), Mechanical Drawing (one year), two or more years of a Foreign Language (German, French or Russian).

*Associate in Arts Degree or Associate in Science Degree with a Major in Mathematics.*

Requirements	Semester Unit
Mathematics 31, 32, 33 and at least 6 units from Mathematics 22, 24a, 24b, 25, 30, 34, 35 .....	18

General Education and other requirements for the A.A. degree: See Pages 61-62.

**Medical Assisting**

(For Program Planning and Suggested Curricula see Business—Medical Assisting, page 80)

**Military Science (Reserve Officer's Training Corps)**

Military Science is offered to qualified students enrolled on a full-time basis at College of San Mateo. Classes and leadership laboratory are conducted at San Jose State University under the supervision of the Professor of Military Science, San Jose State University.

Students may complete the first two years of Army ROTC while enrolled at College of San Mateo and qualify for enrollment in the advanced course (third and fourth year) at degree granting colleges or universities. Completion of ROTC and a baccalaureate degree qualify students for a commission in the United States Army Reserve or Regular Army.

Students may obtain enrollment forms from their counselor or the Department of Military Science, San Jose State University (telephone (408) 277-2985/2986).

**Music**

**Transfer Program**

*Associate in Arts Degree with a Major in Music*

Music majors should check requirements for transfer in junior standing to a four-year college or university. Students should refer to the catalog of the college of their choice for specific requirements, or consult with their College of San Mateo counselor.

Music classes are also available to the general student body and members of the community for personal enrichment and to apply towards general education requirements for transfer to four-year institutions. Auditions may be required. All qualified students are invited to join a performing organization.

Requirements	Semester Units
9 units from Music 9, 1a-b, 2a-b, 4a-b, 5a-b, 16, 17;	
3 units from Music 6, 7, 8;	
6 units from Music 16, 21, 22, 23, 27, 28, 29, 33, 34,	
completion of 3 semesters of Music 41 and	
3 semesters in performance classes;	
2 units from Music 12, 13, 14, 15, 18a-b, 24, 25, 26a-b,	
37, 38, 39, .....	20

General Education and other requirements for the A.A. degree: See Pages 61-62.

**Nursing**

**Transfer Program**

(See also Life Sciences)

Students who intend to transfer a major in Nursing should plan their courses at College of San Mateo to meet the

general requirements for junior standing, as well as the lower division department requirements of the college or university to which they wish to transfer.

*Associate in Science Degree with a Major in Nursing*

The College of San Mateo Associate in Science Nursing Program provides students with opportunities for learning at the College, local hospitals and related health agencies. Clinical practice begins early in the first semester.

A graduate of this program is prepared to care for patients in homes, hospitals, clinics and doctors' offices.

Upon graduation, the candidate receives an Associate in Science degree and is eligible to write the California Board of Registered Nursing licensing examination.

**Admission Requirements:** To be eligible for enrollment in the program, the applicant must (1) be a high school graduate or equivalent as determined by the California Board of Registered Nursing; (2) have completed one year of high school algebra, Chemistry with lab, and General Biology with lab or their equivalents with C grades within the last 5 years; (3) be admitted to the college and have a C average in all completed college courses; (4) have a cumulative G.P.A. of 2.5 in all college courses taken — or attain an overall 60% on the National League for Nursing examination. Contact the Nursing Department for application information.

**Priorities for Admission:** Preference will be given to (1) applicants on the basis of the greatest number of units completed in satisfaction of requirements for the A.S. Degree nursing program (as listed in the college catalog); (2) residents of San Mateo County.

The following program shall be completed before qualifying for the licensing examination:

Requirements	Semester Units
Nursing 1, 2, 3, 4, 5 .....	36
Biology 41, 42 .....	9
Psychology 1a, 5, Sociology 1 .....	9
Speech 1a or 10; English 11 .....	6

General Education and other requirements for the A.A. degree: See Pages 61-62.

## Nursing — Vocational

### Certificate Program

Total Program Hours: 450 lecture, 1,080 laboratory.

This program is designed to prepare the student to meet the qualifications for licensing set up by the California Board of Vocational Nurse and Psychiatric Technician Examiners. The graduate of this program is prepared to care for patients in hospitals under the supervision of a registered nurse or licensed physician.

**Admission requirements:** To be eligible for enrollment in the program, the applicant must (1) be a high school graduate or equivalent as determined by the Board of Vocational Nurse and Psychiatric Technicians; (2) have completed courses in Mathematics and General Biology within the last 5 years with no grade less than C; (3) be admitted to the college and have a C Average in all completed college courses; (4) show satisfactory completion of English 61 or eligibility for English A or 11.

**Priorities for Admission:** Preference will be given to (1) applicants on the basis of the greater number of units completed in satisfaction of requirements for the Vocational Nursing Program (as listed in the college catalog); (2) residents of San Mateo County.

Requirements	Semester Units		
	Lec.	Lab.	Total
<b>First Semester (18 weeks)</b>			
Nursing 1 .....	4	4	8
Vocational Nursing 51 .....	5	2	7
Biology 7 .....	3	—	3
Psychology 1a .....	3	—	3
Total	15	6	21
<b>Second Semester (18 weeks)</b>			
Vocational Nursing 52a .....	7	8	15
Biology 52 .....	2	—	2
Total	9	8	17
<b>Third Semester (10 weeks)</b>			
Vocational Nursing 52b .....	2	7	9
Grand Total	26	21	47

*Associate in Arts Degree with a Major in Vocational Nursing*

Requirements	Semester Units
Nursing 1 .....	8
Vocational Nursing 51, 52a and 52b .....	31
Biology 7, 52 .....	5
Psychology 1a .....	3

General Education and other requirements for the A.S. degree: See Pages 61-62.

## Physical Education

### Transfer Program

*Associate in Arts Degree with a Major in Physical Education*

Recommended High School Preparation: Foreign Language, Elementary Algebra, Plane Geometry, Intermediate Algebra, Biology, Chemistry, competency in aquatics, rhythms and dance, games and relays, individual and dual sports, team sports, gymnastics and (for men) combatives competitive experience.

The program outlined below is typical of requirements for transfer in junior standing to a four-year college or university.

Students should refer to the catalog of the college of their choice for specific requirements, or consult with their college of San Mateo counselor.

Requirements	Semester Units
<b>MEN</b> — P.E. 40 and Recreation 40 and 41, and P.E. 41a-b or 43a-b; 9 units from P.E. 1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 43a-b .....	20
<b>WOMEN</b> — P.E. 40 and Recreation 40 and 41, and P.E. 42a-b (or if not offered, P.E. 41a-b or 43a-b); 9 units from P.E. 2, 3, 21, 22, 23, 24, Dance Prod. I & II or Exhibition Gymnastics .....	20

**Suggested Electives:** Biology, Chemistry, Anatomy, Physiology, Physics.

General Education and other requirements for the A.A. degree: See pages 61-62.

## Physical Science

### Transfer Program

*Associate in Science Degree with a Major in Physical Science*

Recommended High School Preparation: Elementary Algebra, Plane Geometry, Intermediate Algebra, Trigonometry, Chemistry, Physics.

Students should refer to the catalog of the college of their choice for specific requirements, or consult with their College of San Mateo counselor.

Requirements	Semester Units
At least one course in each of the following areas: Astronomy 10, 1; Chemistry 10, 30a, 1a; Geology 10, 1a; Physics 10, 2a, 4a .....	18

**Suggested Electives:** Chemistry 5, 12a; Mathematics 25, 30, 31, 32, 33, 34; Physics 4a, 4b, 4c.

General Education and other requirements for the A.S. degree: See pages 61-62.

## Physics

*Associate in Science Degree with a Major in Physics*

Requirements	Semester Units
Physics 4a-b-c .....	12
Mathematics 31, 32, 33 .....	12

General Education and other requirements for the A.S. degree: See pages 61-62.

## Police Science

(See Administration of Justice)

## Recreation Education

### Transfer Program

*Associate in Arts Degree with a Major in Recreation Education*

Recommended High School preparation: See Physical Education A.A. degree requirements.

Requirements	Semester Units
<b>MEN</b> — P.E. 40 and Recreation 40 and 41, and P.E.41a-b; plus 9 units from P.E. 1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13.	
<b>WOMEN</b> — P.E. 40 and Recreation 40 and P.E. 42a-b (or if not offered, P.E. 41a-b); 9 units from P.E. 2, 3, 21, 22, 23, 24.	
Dance Prod. I & II or Exhibition Gymnastics .....	20

**Suggested Electives:** Biology, Chemistry, Anatomy, Physiology, Physics.

General Education and other requirements for the A.A. degree: See Pages 61-62.

## Social Science

### Transfer Program

*Associate in Arts Degree with a Major in Social Science*

Social Science fields are many and varied, and include such areas as Cultural Anthropology, Economics, Geography, History, International Relations, Philosophy, Political Science, Psychology, and Sociology.

Students should refer to the catalog of the college of their choice for special requirements.

Requirements	Semester Units
The requirements for a Social Science major will total 18 units selected from at least 3 of the following, with a minimum of 2 courses in one of the following:	
Anthropology (not including Anthro. 1/Bio. 11);	
Economics (not including Econ. 2); Ethnic Studies (not including E.S. 11, 12, 15, 17, 41, 42, 43, 44, 45); Geography (not including Geog. 1a); History, Philosophy (not including Phil. 7 or 12);	
Political Science, Psychology (not including Psych. 7);	
Social Science, Sociology .....	18

General Education and other requirements for the A.A. degree: See Pages 61-62.

## Spanish

The program is designed to give the student a functional proficiency in the language, while at the same time preparing him or her to transfer to a four-year institution with a minor or major in Spanish.

### *Associate in Arts Degree with a Major in Spanish*

Requirements	Semester Units
Spanish language courses .....	18
Anthropology 2, Ethnic Studies 3, 8, 11, and History 8a-b may be accepted with Language Arts Division approval.	

General Education and other requirements for the A.A. degree: See Pages 61-62.

### *Certificate of Proficiency*

Students who feel written proof of their proficiency would be beneficial to their careers may apply for a Certificate of Proficiency in Spanish after they have completed the advanced intermediate course (Spanish 4) and a minimum of two additional units, and have passed the department tests on aural comprehension and speaking fluency.

## Speech

### *Associate in Arts Degree with a Major in Speech*

Requirements	Semester Units
Speech 2a-b, 10, 33 .....	9
Humanities courses .....	9

General Education and other requirements for the A.A. degree: See Pages 61-62.

## Technology

### **Transfer Programs**

Normally graduates of College of San Mateo Technology Programs enter industry directly upon completion of their studies. Some graduates, however, may decide to further their collegiate education at that time or after gaining some industrial experience. Several of the state colleges offer programs to graduates of technology curriculums. The time required to complete the state college program is normally two years, at which time the graduate is awarded a Bachelor's degree. The state college curriculum in which the graduates enroll is flexible; each graduate is considered individually and courses are selected which will meet the needs and desires of the student.

Transfer curriculums which are open to College of San Mateo Technology graduates include the following:

**San Francisco State University:** Design-Arts-Industry Program, Special Engineering Technology Curriculum.

**California Polytechnic State University:** (San Luis Obispo Campus) Industrial Technology, Industrial Arts Education, and Industrial Sales and Technology.

**San Jose State University:** Industrial Studies, Industrial Design, Industrial Technology, and Industrial Arts Education.

**California State University, Fresno:** Industrial Technology Curriculum.

**California State University, Long Beach:** Industrial Technology Curriculum.

**California State University, Chico:** Industrial Technology Curriculum.

## Technical Art/Graphics

### *Associate in Arts Degree with a Major in Technical Art and Graphics*

Requirements	Semester Units
Technical Art and Graphics 52a-52b, 54, 55, 63, 64, 65a-65b, 66 .....	33
Art 2b or 51 .....	3

General Education and other requirements for the A.S. degree: See Pages 61-62.

### *Certificate Program*

A Certificate of Completion will be issued to those students with a G.P.A. of 2.0 or better in the major requirements.

Those students who successfully complete the above curriculum with a G.P.A. of 3.0 or better will be eligible to receive the Certificate of Proficiency in Technical Art/Graphics.

**Career Opportunities:** There are career opportunities for artists with technical art and graphics training in many areas, including research and development centers, technical publications, manufacturing plants, state and federal bureaus, educational institutions, and advertising agencies.

## Technical Art/Graphics— Graphic Communications

### *Certificate Program—Evening*

Graphic Communications is the study of the processes, starting with the planning and creation of original art or copy through to the reproduction of the subject by the printing process. These processes involve design, composition, copy preparation, camera work, stripping, platemaking, press work and bindery.



The student may enter any of the six, eight-week mini-courses without prerequisites. Courses TA/G 710 through 714 are composed of teacher-paced cores A through F, which progress sequentially, with repetition of cores planned as intensification of facts and skills. Self-paced instructional units are provided to accelerate the students' progress through each core.

Upon successful completion of TA/G 710 through 715, the student will be eligible to receive the Certificate of Proficiency in Graphic Communications.

Career Opportunities: Graphic reproduction technicians are employed as production artists, photo-composing operators, lithographic camera persons, stripping or flat assemblers, platemakers, offset press operators, bindery operators. There are also opportunities for sales and service persons in the related industries. Much growth has occurred in the in-plant graphics shops as well as the franchised printing outlets.

### Technical Art/Graphics— Industrial Design

#### Transfer Program

Students should refer to the catalog of the college of their choice for special requirements since the three California colleges accredited by the Industrial Design Society of America vary considerably in their recommendations for undergraduate preparation. Typical requirements for transfer include: Art 1b, 1c; Biology 2; Economics 1a; Engineering 11, 12; Physics 2a, 2b; Speech 1a.

Requirements	Semester Units
Technical Art/Graphics 52a, 54, 55, 64 .....	18

**Suggested Electives:** Technical Art/Graphics 65a, Technical Materials 72, Technical Processes 74.

Career Opportunities: Industrial designers work for manufacturing companies and independent design offices. Today, nearly every manufacturer of consumer hard goods, housewares, appliances, automobiles and electronic equipment has a design staff or retains a consultant.

### Telecommunications — Broadcast Engineering

*Associate in Arts Degree with a Major in Broadcast Engineering*

Requirements	Semester Units
Electronics 52-52L, Telecommunications 52a, 60a, 65, 66, 100a-101b, Data Processing 50 .....	27

General Education and other requirements for the A.A. degree: See Pages 61-62.

### Telecommunications—Radio Broadcasting

*Associate in Arts Degree with a Major in Radio Broadcasting*

Requirements	Semester Units
Telecommunications 52a-52b, 60a, 65, 66, and 6 units from: 51, 53, 67, 68, 70, 71;	
Data Processing 50 .....	24
Speech 1a .....	3

General Education and other requirements for the A.S. degree: See Pages 61-62.

### Telecommunications — Television Broadcasting

*Associate in Arts Degree with a Major in Television Broadcasting*

Requirements	Semester Units
Telecommunications 52a, 60a-60b, 61a-61b, 65, 66; Data Processing 50 .....	24
Telecommunications Electives .....	3

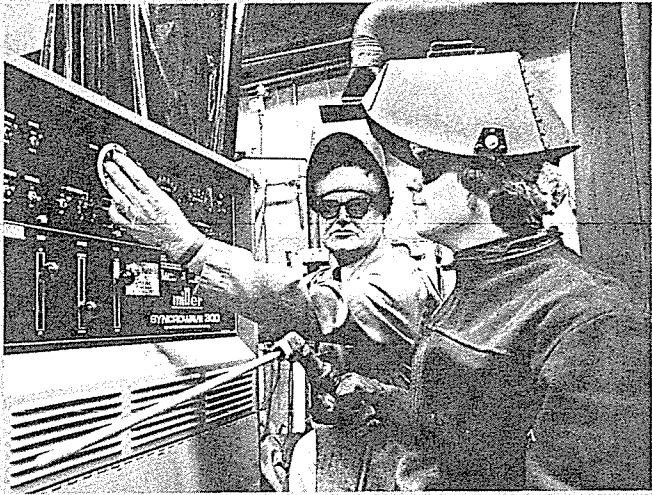
General Education and other requirements for the A.A. degree: See Pages 61-62.

Career Opportunities: The CSM Telecommunications programs — in Broadcast Engineering, Radio Broadcasting, and Television Broadcasting — prepare graduates for many excellent positions throughout the industry. All branches of the communications industry need qualified, capable broadcasters and sound and video-control technicians, and although competition is very keen, the outlook for a future in the field is promising for the student who successfully completes any one of three Telecommunications programs and meets the Federal Communications Commission licensing requirements.

Students who enroll in Telecommunications programs receive instruction in the theoretical aspects of the field, and have an additional, important advantage of working in and with live facilities. Through actual on-the-air broadcasts from the campus stations, KCSM-FM and KCSM-TV, students receive practical experience that provides excellent preparation for immediate employment — or, if they prefer, for transfer to a four-year program.

### Trade and Industrial Courses

Classes of related training are offered for apprentices in certain trades as indicated in the section on curriculum for Trade and Industrial courses. These classes follow the course outlined by the State Bureau of Apprenticeship Standards.



Welding instructor Chauncey Martin has been feted by the American Welding Society as an outstanding instructor of Welding Technology.

## Vocational Gardening

Certificate Program

See Horticulture Courses.

## Welding Technology

Associate in Science Degree with a Major in Welding Technology

Recommended High School preparation: Elementary Algebra, Physics, Mechanical Drawing.

Requirements	Semester Units
Welding Technology: 51, 52a-52b, 52aL-52bL,	
53, 62a-62b, 62aL-62bL .....	37
Technology 71 or Physics 10, Technology 74, 76 .....	8
Electronics 14.....	3

General Education and other requirements for the A.A. degree: See Pages 61-62.

Students will be required to purchase personal safety equipment and adhere to all safety rules.

Those students who successfully complete the above curriculum with a G.P.A. of 3.0 or better will be eligible to receive the Certificate of Proficiency in Welding Technology.

**Career Opportunities:** The field of welding offers employment in automotives, aircraft, guided missiles, nuclear energy, railroads, radio, television, appliances, department stores and food processing plants. The welding technician can join, separate and remove excess metals with various techniques, and is able to work with ferrous, non-ferrous and

exotic metals using TIG and MIG processes. The welding technician is the liaison between the welding engineer and the welder.

## Women's Studies

The College of San Mateo currently offers Women's Studies courses in various academic disciplines. These include History 28: Women in American History (3 units), which surveys the accomplishments of American women from colonial times to the present. The roles played by American women of different racial and local origins are explored in depth. Psychology 28: Psychology of Women (3 units) examines, within a framework of standard psychological concepts, the ways in which culture influences feminine and masculine role behavior. English 29: Women and Literature investigates the images of women in English and American literature and introduces students to important contemporary women writers. Pol. Sci. 28: Women, Politics & Power (3 units) examines the changing role of women in the American political process. Learning Center 80/Guidance 8 (1-3 units) analyzes the student's present abilities and interests, develops college-level study skills, examines career opportunities for women, and provides academic and career counseling in a milieu supportive of women.

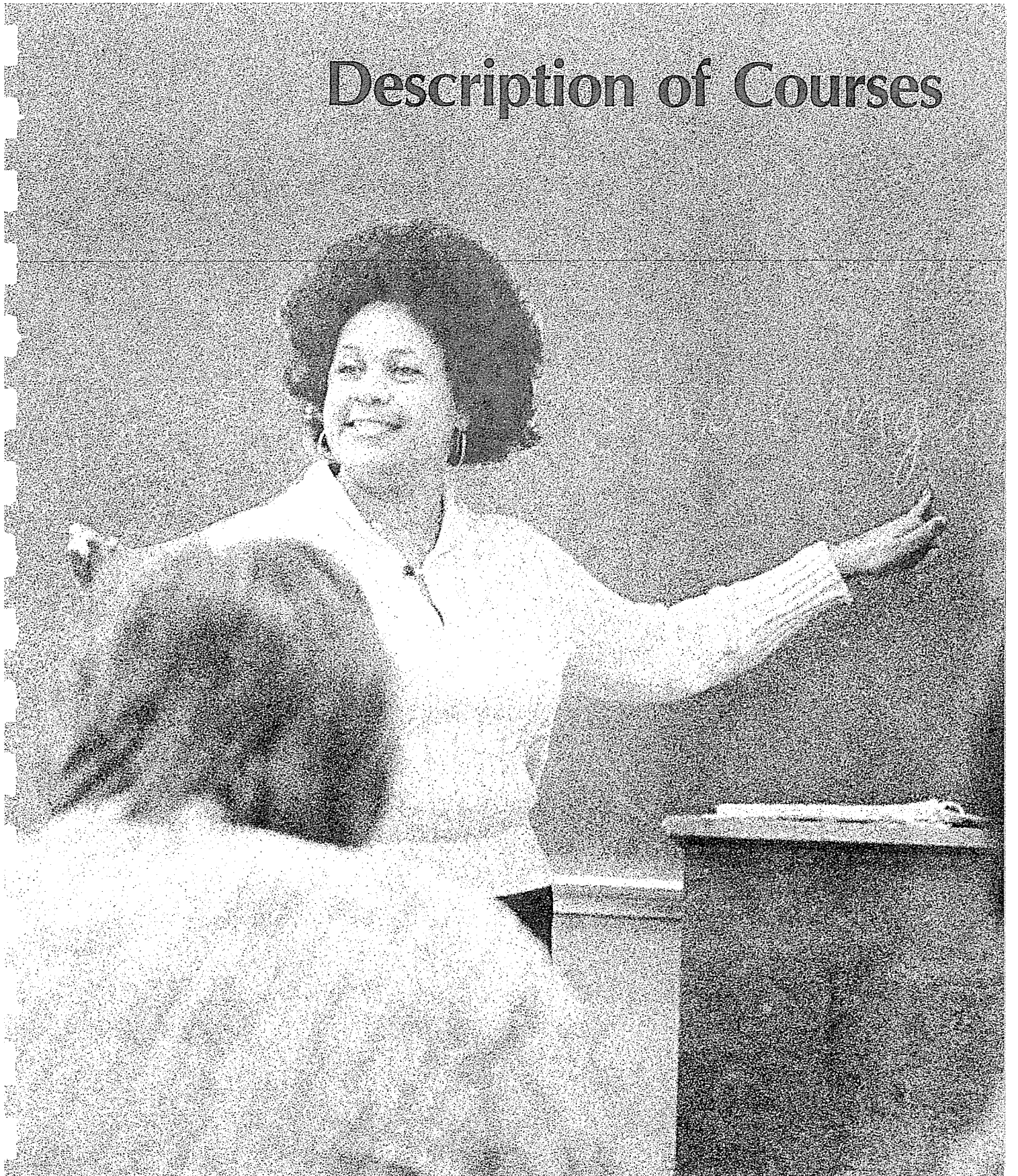
An academic major in Women's Studies is now available at some four year colleges and universities. Students interested in majoring in Women's Studies should consult the catalog of the college of their choice for detailed information. In addition, the College of San Mateo offers a Women's Re-Entry Program for women whose formal education has been interrupted or postponed (See page 55).



Aeronautics instructor Steve Lamont offers tips on using the flight simulator. He's shown here with Karen Squyres, who's working towards her pilot's license.



# Description of Courses



## Focus on Faculty . . .

### MARY LLOYD JEFFERS

CSM Political Science instructor Mary Jeffers took an immediate interest when Allan Bakke brought suit against the University of California in 1976, contending that that institution's special admissions program for disadvantaged minority students violates the constitutional rights of nonminority applicants. As an instructor of American Institutions and Contemporary Ethnic Politics courses, Jeffers was familiar with the principles of affirmative action that were being tested when the Bakke case went to the U.S. Supreme Court for resolution.

It was only natural, then, that when she was invited to participate in a national conference of the Community College Social Science Association in Atlanta, Georgia, she chose to present a paper detailing the issues raised in Bakke's suit and interpreting the philosophy of affirmative action as it relates to higher education. "May government voluntarily take a person's race into account when the purpose is to ameliorate past and continuing effects of racial injustice?" she asked the members of that group. "Those who say 'yes' call it affirmative action. Those who say 'no' call it reverse discrimination. Those who support the use of numerical racial guidelines to equalize opportunity call them goals. Those who are opposed call them quotas. Whatever the name, the game is the same age-old dilemma: How to achieve an equitable distribution of limited resources," she maintained.

Jeffers saw the California high court ruling in the case (which determined that the affirmative action program was unconstitutional and should be abolished) as "an ominous sign directing blacks and ethnic minorities back to the back of the bus." She, for one, is not about to go back. A long-time advocate of civil rights, Jeffers has been an active member of the National Association for the Advancement of Colored People (NAACP) since her high school and college days in the South. She was a youth officer of that organization at both local and regional levels, and when she came to California she sat on the executive board of the San Francisco NAACP chapter. Her awareness of the discrepancies between "what ought to be" and "what is" led eventually to an involvement in state-level politics—she served two terms as an appointed member of the State Democratic Central Committee in the late '60s, which earned her a listing in "Who's Who in American Politics."

Jeffers says her involvement in politics and civil rights activities has proven to be a definite asset to her teaching career, which she began at CSM in 1963. "My approach has always been to try to make the deed more closely approximate the creed, in whatever small ways I can," she says. One of those ways has been through teaching. It was she who originated the Contemporary Ethnic Politics course, which has been popular with students since it was first introduced in 1970-71, and she recently prepared another new course, "Women, Politics and Power," which in 1978-79 becomes a regular offering of the Social Science Division.

Jeffers lives in San Francisco with her husband, Clifton, and their 4-year-old son Kwame.



## Courses of Instruction Information Regarding Course Additions for 1978-79

### New Course Title, Number and Name

**Architecture 18** Stress Analysis  
**Art 80** Management Systems for Interior Designs  
**Biology 12** Introduction to Psychosomatic Illness  
**Business 92.11** Memory Typewriter  
**Chemistry 11a-11b** General Chemistry for Engineering  
**Consumer Arts & Sciences 6** Slim Gourmet  
**Engineering 46** Engineering Review (E.I.T. Exam)  
**Ethnic Studies 25** Japanese-American Relocation Camps  
**Ethnic Studies 33a-33b** African-American Culture  
**Ethnic Studies 46** Social Investigation and Research in Ethnic  
Urban Community Organizations  
**Fire Science 70a-70b** Basic Fire Academy  
**French 100d** Conversational French, Advanced  
**German 100d** Conversational German, Advanced  
**Italian 100d** Conversational Italian, Advanced  
**Labor Studies 12a** Labor Relations Law  
**Labor Studies 15** Responsibilities and Psychology  
**Labor Studies 20** Labor and Politics  
**Machine Tool Technology 712** Basic Learning Lab  
**Mathematics 2** Elementary Algebra Review  
**Mathematics 3** Metrics  
**Mathematics 4** Technical Algebra I  
**Mathematics 5** Technical Algebra II  
**Mathematics 6** Technical Trigonometry  
**Mathematics 7** Calculator Usage  
**Music 21a-b-c-d** Symphony Orchestra  
**Music 29** Jazz Workshop  
**Nursing—Vocational 60** Nursing Assistant—Home Health Aide  
**Philosophy 1** Introduction to Philosophy  
**Philosophy 37** Philosophical Theories of Consciousness  
**Physical Education 43a-43b (Coed)** Theory of Sports Officiating  
**Political Science 28** Women, Politics and Power  
**Recreation Education 42** **Social Recreation**  
**Recreation Education 43** Program Planning  
**Recreation Education 44** Foundations of Outdoor Recreation  
**Technical Art/Graphics 710-714** Graphic Communications  
**Technical Art/Graphics 715** Graphic Art for Business

Index - Current Title, Number, and Name

- Architecture 18 - [Title]
- Art 60 - [Title]
- Biology 11 - [Title]
- Business 21, 22 - [Title]
- Chemistry 12 - [Title]
- Communications 10 - [Title]
- Computer Science 13 - [Title]
- Education 14 - [Title]
- Engineering 15 - [Title]
- Environmental Science 16 - [Title]
- Health 17 - [Title]
- History 19 - [Title]
- Humanities 20 - [Title]
- Information Systems 23 - [Title]
- International Business 24 - [Title]
- Law 25 - [Title]
- Liberal Arts 26 - [Title]
- Mathematics 27 - [Title]
- Media 28 - [Title]
- Music 29 - [Title]
- Natural Sciences 30 - [Title]
- Physical Education 31 - [Title]
- Physical Education 32 - [Title]
- Physical Education 33 - [Title]
- Physical Education 34 - [Title]
- Physical Education 35 - [Title]
- Physical Education 36 - [Title]
- Physical Education 37 - [Title]
- Physical Education 38 - [Title]
- Physical Education 39 - [Title]
- Physical Education 40 - [Title]
- Physical Education 41 - [Title]
- Physical Education 42 - [Title]
- Physical Education 43 - [Title]
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## Description of Courses

Courses are offered at the discretion of the college in accordance with its determination of educational needs and available resources.

Some four-year colleges will accept, as transfer credit, units earned in any course offered at College of San Mateo, with the exception of remedial courses. Other colleges will accept only those courses which are equivalent to courses taught at those institutions. Students should consult with their counselor regarding particular transfer institutions.

Courses numbered 10 are specifically designed as survey courses, primarily for General Education; 47 is reserved for Cooperative Education, 48 for Selected Topics, and 49 for Special Projects; 148 designates a nontransferable course.

The credit value of each course in semester units is indicated by a numeral in parenthesis following the title. A semester unit of credit is based upon one hour of the student's time at the College per week in lecture or recitation throughout one semester, together with the necessary preparation time, or a longer time in laboratory or other exercises not requiring outside preparation.

Specific information concerning class hours will be found in the Schedule of Classes.

Students should check course descriptions and prerequisites, and discuss the recommended sequence with counselors/advisors.

**NOTE: The three-digit numbers in parentheses following the course number are presented in anticipation of course numbering to take effect in 1979-80.**

## Administration of Justice

(Police Science)

### 1 INTRODUCTION TO ADMINISTRATION OF JUSTICE (3)

Three class hours per week. Required of all Administration of Justice majors in the freshman year.

An orientation to the Administration of Justice program, as well as law enforcement as a profession. Includes history and philosophy of law enforcement, employment opportunities and general requirements of the various law enforcement agencies.

### 2 PRINCIPLES AND PROCEDURES OF THE JUSTICE SYSTEM (3)

Three class hours per week.

Review of criminal justice systems in the United States with special emphasis on California. Procedures from time of offense until disposition of the case by the court. Basic principles of federal, constitutional, state and local laws as they pertain to law enforcement and the court system.

### 3 CONCEPTS IN CRIMINAL LAW (3)

Three class hours per week.

The structure and definitions in the most frequently used sections of the California Penal Code and other criminal statutes. Classification of crimes, nature of crimes, intent involved in the commission of an offense, attempts, and criminal liability.

### 4 LEGAL ASPECTS OF EVIDENCE (3)

Three class hours per week. Prerequisite: Administration of Justice 3.

The kinds and degrees of evidence and the rules governing the admissibility of evidence in court. Emphasis on recent Supreme Court decisions, laws of arrest, and search and seizure.

### 5 POLICE AND COMMUNITY RELATIONS (3)

Three class hours per week.

Interaction of law enforcement and local government. Current innovative programs by police agencies to establish communications and liaison between law enforcement and the community.

### 7 CRIMINAL INVESTIGATION (3)

Three class hours per week. Prerequisites: Administration of Justice 1, 2 and 3.

Rudiments of criminal investigation; crime scene search; collection, preservation and identification of physical evidence; scientific aids; sources of information; interrogation of victims, witnesses and suspects; cooperation with related agencies; case preparation and follow-up work.

### 10 JUVENILE PROCEDURES (3)

Three class hours per week. Prerequisite: Completion of or concurrent enrollment in Administration of Justice 1.

The role law enforcement agencies play in juvenile and delinquency control; organization and functions of related juvenile agencies, the laws governing the handling of juvenile offenders and their application; a brief resume of the juvenile court and its jurisdiction.

### 12 TRAFFIC SUPERVISION AND CONTROL (3)

Three class hours per week. Prerequisite: Administration of Justice 1.

Laws relating to the operation of motor vehicles: California Vehicle Code sections most often encountered and violated; regulation and traffic control; traffic accident investigation; emphasis on causes and contributory aspects of driver behavior.

### 15a-15b-15c CRIMINAL IDENTIFICATION (1-1-1)

Three sections of this course will be offered each third semester as a block for three units of credit. The individual sections will be offered as required. The course may be taken only once for credit, either in segments or as a block. Prerequisite: Administration of Justice 7.

**15a Advanced Fingerprinting, Classification** — A study of the biological structure of the layers of the skin, the history of fingerprinting. Development of knowledge and identification capabilities for fingerprint patterns. Henry and FBI systems of classification with ability to file and search, and demonstration of practical application. **15b Advanced Fingerprinting, Latent** — Discussion of modus operandi leading to the location of areas containing latent impressions. Development of latent impressions by mechanical and chemical mediums, photography and lifting techniques. Comparison of latents with rolled impression. Courtroom comparison with practical application. **15c Criminal Identification** — A study of basic methods of identification (Portrait Parle), Bertillion system and present-day identification systems, and equipment available for development of composite images. Identification and field photography, camera and darkroom procedures and techniques.

### 17 POLICE ORGANIZATION AND ADMINISTRATION (3)

Three class hours per week. Prerequisites: Administration of Justice 1 and 2 and sophomore standing.

Functions of the police organization. Concepts of chain of command, span of control, functional supervision, unity of command and the purpose of the police organization and administration.

### 19 PATROL PROCEDURES (3)

Three class hours per week. Prerequisite: Completion of or concurrent enrollment in Administration of Justice 1.

Methods, techniques and responsibilities of the patrol unit. The value of one-man car as opposed to the two-man car; marked vs. unmarked patrol cars. Beat patrol and observation, police hazards and how to handle them.

### 25 POLICE DEFENSE TACTICS & BATON (1) (Formerly Police Defensive Tactics)

Two class hours per week.

Modern police techniques in self-defense. Use of techniques which subdue with least amount of violence; controls with least possibility of injury to both parties. Teaches the art of judo and jujitsu and baton training.

### 47 COOPERATIVE EDUCATION (1-4) (Credit/No Credit)

Work experience in a field related to a career goal, supplemented by individual counseling from an instructor-coordinator. (See Page 130.)

### 48 SELECTED TOPICS IN ADMINISTRATION OF JUSTICE (1-3)

Hours by arrangement.

Selected topics in Administration of Justice not covered by regular catalog offerings. Course content and unit credit to be determined by the Health and Service Careers Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

### 49 SPECIAL PROJECTS (1-2)

Hours by arrangement. Prerequisite: 3.0 GPA in subject field.

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

### 94 ADVANCED OFFICERS COURSE (1-2)

Hours by arrangement. Prerequisite: Completion of ADMJ 1, 2, 3, 4, 5 and 90.

New laws, recent court decisions, current enforcement procedures, new concepts in law enforcement technology, community human relations and other refresher training as may be necessary. Certified by the Commission on Peace Officer Standards and Training (POST). (May be repeated for credit.)



**96a PEACE OFFICERS ORIENTATION: ARREST & FIRE-ARMS (1-2)**

*One week, by arrangement: 26 or 40 hours.*

Laws of arrest, search and seizure, methods of arrest and discretionary decision-making. The care and use of firearms, moral and legal applications of firearms, and range qualification to demonstrate performance objectives. This course certified by Peace Officer Standards & Training (POST) as required by Penal Code Section 832 for Peace Officers. (Note: Any person convicted of a felony may be in violation of the law by participating in the firearms portion of this course.)

**96c SECURITY BATON TRAINING (½-1)**

*8 or 16 hours (one week by arrangement)*

A course in the legal and moral aspects as related to use of force. Familiarization with various baton procedures, defensive and offensive control and arrest techniques. Ability to demonstrate performance objectives. This course certified by Peace Officers Standards and Training (POST) and fulfills requirements of Consumer Affairs Division.

**98 POLICE FIREARMS INSTRUCTION—CHEMICAL AGENTS (½-1)**

*Eight to 40 hours per week, by arrangement.*

Safety instruction for firing range operation. Care, safety and use of various police weapons including range familiarization in various firearms courses utilized in law enforcement. Nonlethal chemical agents, history and use in law enforcement. Field application and exposure to various agents and first aid for exposure victims. This course conforms to Peace Officers Standards and Training (POST) for Chemical Agents Training. (Note: Any person convicted of a felony may be in violation of the law by participating in the firearms portion of this course.)

**99a RESERVE OFFICERS BASIC TRAINING (3)**

*Three class hours per week and eight hours on designated Saturdays. (Total 85 hours.) Prerequisite: Administration of Justice 1 or 2, or eligibility for Reserve Police Organization.*

A course in basic police operations, laws, evidence, procedure, juvenile law and procedure, first aid and chemical agents. To prepare potential applicants to a reserve police or sheriff's unit.

**99b RESERVE OFFICERS BASIC TRAINING (3)**

*Three class hours per week and eight hours on designated Saturdays. (Total 82 hours.) Prerequisite: Administration of Justice 99a, or equivalent.*

A course in intermediate basic police operations involving parole, probation, community police relations, patrol proce-

dures, traffic control, defensive tactics, firearms training and qualifications. To prepare potential applicants for reserve status in police or sheriff's department. Upon successful completion of 99a and 99b, a verification indicating conformance with the requirements for Section 832 of the Penal Code and certification by Peace Officers Standards and Training will be issued.

**99c RESERVE OFFICERS BASIC TRAINING (4)**

*Three hours per week and eight hours on designated Saturdays. (Total 88 hours.) Prerequisites: Administration of Justice 99a and 99b, or equivalent.*

Advanced basic criminal investigation of specific crimes and advanced patrol procedures involving demonstration of behavioral objectives and practical application in specific situations and problems. To fulfill training requirements of the reserve applicant.

## Aeronautics

(Also see Meteorology 1 and 10)

*Students in Airframe and Powerplant courses will be expected to pay a fee (approximately \$30 for the entire program) for airplane taxiing at the airport site.*

**2a (100) BASIC PILOT GROUND SCHOOL (3)**

*Three lecture hours per week. Concurrent enrollment in Aero. 3 and Aero. 6 required (Aero. 3 and Aero. 6 not required for evening session).*

Preflight requirements, basic navigation, flight computer, use of basic flight manuals, aviation aeronautical chart reading, aviation weather, federal aviation regulations and enroute emergency procedures.

**2b (101) INSTRUMENT FLIGHT GROUND SCHOOL (3)**

*Three lecture hours per week. Prerequisites: Aero. 2a, 3 and concurrent enrollment in Aero. 7, Meteorology 10 or 1. (Private Pilot license or Aero. 2a required for Evening Session.)*

Federal Aviation regulations, navigation and meteorology, requirements for instrument flight. Preparation of flight logs and related flight planning.

**2c (102) COMMERCIAL PILOT GROUND SCHOOL (3)**

*Three lecture hours per week. Prerequisite: Aero. 2a, 2b, and 7 (Private Pilot license or Aero. 2a required for Evening Session.)*

Aircraft weight and balance, performance charts, high per-

ADMISSIONS AND REGISTRATION  
COLLEGE OF SAN MATEO  
1700 W. HILLSDALE BLVD.  
SAN MATEO, CALIFORNIA 94402

formance aircraft systems and operation. F.A.A. Regulations Parts 1, 61, 91, and 135, NTSB 830. Prepares students to take F.A.A. Commercial Pilot Airplane written examination.

**3 (103) FLIGHT SIMULATION (½)  
(Credit/No Credit)**

*Prerequisites: Day - enrollment in Aero. 2a, 2b or 2c, or equivalent. (Private Pilot certificate required for Evening Session.)*

Practice in Singer GAT-1 ground trainer in basics of flight through advanced instrument maneuvers. Level of study depends on flight experience. Trainers are equipped with 3 axis motion and radio navigation aids including VOR, ADF, ILS. Automatic tracker records flight progress. (May be taken five times for credit.)

**5 (115) AIRCRAFT POWERPLANT FOR PILOTS (3)**

*Three lecture hours per week.*

Theory, operation and nomenclature of reciprocating and turbine powerplants. Basic construction of induction, ignition, lubrication, propellers, systems, and use of performance curves.

**6 (126) AIRCRAFT (3)**

*Three lecture hours per week.*

Study of subsonic, transonic and supersonic flight with emphasis on stability and control. Aircraft nomenclature, design features, systems components and construction, including fixed and rotary wing aircraft. Weight and balance, load factors calculations on aircraft and introduction to the federal aviation regulations systems.

**7 (137) FEDERAL AVIATION REGULATIONS (3)**

*Three lecture hours per week. Prerequisite: Aero. 2b, or concurrent enrollment.*

The study and practical application of Federal Aviation Regulations and the Airman's Information Manual as it pertains to general operating and flight rules, definitions, and abbreviations, pilot certification and National Transportation Safety Board accident reporting.

**11, 12, 13, 14 and 15 (141, 142, 143, 144, 145)  
FLIGHT TRAINING (2 units each)**

*Prerequisites: Concurrent enrollment in, or completion of, Aero. 2a and Aero. 6, and FAA 2nd class medical certificate.*

Introduction to flight through actual flying experience in modern, instrument and radio-equipped aircraft; completion of the five phases of flight training for the instrument and commercial pilot requirements.

*Enrollments and class assignments will be conducted through*

*the coordinator in the Aeronautics Department. In order to receive credit for the courses, the student must be flying under FAA, Part 141.*

**16 (156) MULTI-ENGINE FLIGHT TRAINING (1)**

*Prerequisite: Refer to Aero. 11.*

Flight training in preparation for the multi-engine rating. Fifteen hours of dual instruction minimum.

**47 (570) COOPERATIVE EDUCATION (1-4)  
(Credit/No Credit)**

*Work experience in a field related to a career goal, supplemented by individual counseling from an instructor-coordinator. (See Page 130.)*

**48 (580) SELECTED TOPICS IN AERONAUTICS (1-3)**

*Hours by arrangement.*

Selected topics in Aeronautics not covered by regular catalog offerings. Course content and unit credit to be determined by the Technology Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture or lecture/laboratory class.

**49 (580) SPECIAL PROJECTS (1-2)**

*Hours by arrangement. Prerequisite: 3.0 GPA in subject field.*

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

**51 (300) BASIC GENERAL MAINTENANCE (2½)**

*Five lecture hours per week for 8 weeks. Prerequisite: Concurrent enrollment in Aero. 51.*

Blueprint reading, mechanical drawing, aircraft weight and balance procedures, and other maintenance functions as specified in Federal Aviation Regulation Part 147.

**51L (301) BASIC GENERAL MAINTENANCE LAB (4)**

*Twenty-five lab hours per week for 8 weeks. Prerequisite: Concurrent enrollment in Aero. 51.*

Aircraft weighing, non-destructive testing, basic heat treating, use of technical manuals and other maintenance functions as specified in Federal Aviation Regulation Part 147.

**52 (310) ADVANCED GENERAL MAINTENANCE (2½)**

*Five lecture hours per week for 8 weeks. Prerequisites: Aero. 51, 51L, and concurrent enrollment in Aero. 52L.*

ADMISSIONS AND REGISTRATION

COLLEGE OF SAN MATEO

1700 W. HILLSDALE BLVD.

SAN MATEO, CALIFORNIA 94402

Description of Courses (continued) Aeronautics 105

Fundamentals of direct and alternating current electricity, fundamentals of applied mathematics, fundamentals of applied physics as specified by Federal Aviation Regulation Part 147.

**52L (311) ADVANCED GENERAL MAINTENANCE LAB (4)**

*Twenty-five lab hours per week for 8 weeks. Prerequisites: Aero. 51, 51L, and concurrent enrollment in Aero. 52.*

Calculate and measure electrical power volts, amps, and resistance, start, ground operate, and move aircraft, overhaul piston and turbine engine ignition systems in accordance with Federal Aviation Regulation Part 147.

**53 (320) BASIC POWERPLANT MAINTENANCE (2½)**

*Five lecture hours per week for 8 weeks. Prerequisites: Aero. 51, 51L, 52, 52L, and concurrent enrollment in 53L.*

Fundamentals of piston engine construction and operation, basic powerplant indicating systems, as specified in Federal Aviation Regulation Part 147.

**53L (321) BASIC POWERPLANT MAINTENANCE LAB (4)**

*Twenty-five lab hours per week for 8 weeks. Prerequisite: Aero. 51, 51L, 52, 52L, and concurrent enrollment in Aero. 53.*

Inspect and repair opposed and radial piston engines, perform powerplant inspections, inspect engine indicating systems as specified by Federal Aviation Regulation Part 147.

**54 (330) BASIC AIRFRAME MAINTENANCE (2½)**

*Five lecture hours per week for 8 weeks. Prerequisites: Aero. 51, 51L, 52, 52L, and concurrent enrollment in Aero. 54L.*

Principles of aircraft sheet metal structures, identification of aircraft fasteners, aircraft sheetmetal layout and fabrication as specified in Federal Aviation Regulation Part 147.

**54L (331) BASIC AIRFRAME MAINTENANCE LAB (4)**

*Twenty-five lab hours per week of 8 weeks. Prerequisites: Aero. 51, 51L, 52, 52L, and concurrent enrollment in Aero. 54.*

Install special rivets and fasteners, inspect and repair sheet metal structures, fabricate tubular structures and other aircraft structural maintenance functions as specified by Federal Aviation Regulation Part 147.

**55 (340) INTERMEDIATE POWERPLANT MAINTENANCE (2½)**

*Five lecture hours per week of 8 weeks. Prerequisites: Aero. 51, 51L, 52, 52L, 53, 53L, and concurrent enrollment in 55L.*

Fundamentals of turbine engine construction and operation, piston and turbine engine fuel metering systems as specified in Federal Aviation Regulation Part 147.

**55L (341) INTERMEDIATE POWERPLANT MAINTENANCE LAB (4)**

*Twenty-five lab hours per week for 8 weeks. Prerequisites: Aero. 51, 52, 53, and concurrent enrollment in Aero. 55.*

Inspect and service turbine engines, repair engine fuel metering components as specified by Federal Aviation Regulation Part 147.

**56 (350) INTERMEDIATE AIRFRAME MAINTENANCE (2½)**

*Five lecture hours per week for 8 weeks. Prerequisites: Aero. 51, 51L, 52, 52L, 54, 54L, and concurrent enrollment in Aero. 56L.*

Principles of construction of aircraft wooden structures, repair of aircraft synthetic material, principles of rigging fixed and rotary wing aircraft as specified in Federal Aviation Regulation Part 147.

**56L (351) INTERMEDIATE AIRFRAME MAINTENANCE LAB (4)**

*Twenty-five lab hours per week of 8 weeks. Prerequisites: Aero. 51, 51L, 52, 52L, 54, 54L, and concurrent enrollment in Aero. 56.*

Application of aircraft covering material, aircraft painting, rig rotary and fixed wing aircraft as specified in Federal Aviation Regulation Part 147.

**57 (360) ADVANCED POWERPLANT MAINTENANCE (2½)**

*Five lecture hours per week for 8 weeks. Prerequisites: Aero. 51, 51L, 52, 52L, 53, 53L, 55, 55L, and concurrent enrollment in Aero. 57L.*

Theory of operation of engine fire detection and control systems, theory of operation and construction of aircraft propellers, and related components as specified in Federal Aviation Regulation Part 147.

**57L (361) ADVANCED POWERPLANT MAINTENANCE LAB (4)**

*Twenty-five lab hours per week for 8 weeks. Prerequisites: Aero. 51, 51L, 52, 52L, 53, 53L, 55, 55L, and concurrent enrollment in Aero. 57.*

Inspect and repair engine exhaust and cooling systems, repair and balance propellers as specified in Federal Aviation Regulation Part 147.

**58 (370) ADVANCED AIRFRAME MAINTENANCE (2½)**

Five lecture hours per week for 8 weeks. Prerequisites: Aero. 51, 51L, 52, 52L, 54, 54L, 56, 56L, and concurrent enrollment in Aero. 58L.

Theory of operation of aircraft hydraulic pneumatic, oxygen, and auto-pilot systems, other aircraft systems and components as specified in Federal Aviation Regulation Part 147.

**58L (371) ADVANCED AIRFRAME MAINTENANCE LAB (4)**

Twenty-five lab hours per week for 8 weeks. Prerequisites: Aero. 51, 51L, 52, 52L, 54, 54L, 56, 56L, and concurrent enrollment in Aero. 58.

Inspect and repair aircraft hydraulic, fuel, pneumatic, and instrument systems and other aircraft components and systems as specified in Federal Aviation Regulation Part 147.

**65a-65b (710-711) AVIONICS (3-3)**

Three lecture hours per week. Prerequisite: Course in elementary electronics or equivalent.

**65**—The study of electronic principles and devices as they apply to aircraft avionic systems. Avionic Systems including gyros, ADF, compass systems, and VOR. **65b**—Aircraft navigation systems including DME, inertial navigation, and autopilot.

**91a-91b (730-731) AIRCRAFT POWERPLANT MECHANICS (4-4)**

Three lecture and three shop hours per week. Prerequisite: Applicant must have completed the FAA time requirements (18 mos.) prior to enrollment. Original enrollment may be in either Aero. 91a or 91b.

**91a**—Basic theory, maintenance, lubrication, carburetion and fuel systems, ignition systems, propellers. **91b** — Electrical systems. FAA regulations and trouble-shooting, preparation for the FAA written examination.

**92a-92b (740-741) AIRFRAME MECHANICS (6-6)**

Six lecture hours per week. Prerequisite: Completion of the FAA time requirements (18 mos.) prior to enrollment. Original enrollment may be in either Aero. 92a or 92b.

**92a** — Aircraft structures, weight and balance, hydraulic systems and aircraft control. **92b** — Aircraft electrical systems, fuel systems, sheet metal structure, welding and FAA regulations. Preparation for the FAA written and practical examination.

## Anthropology

**1 (100) PHYSICAL ANTHROPOLOGY (3)**

Three lecture/discussion hours per week.

Man's place in nature. Topics include man's evolution, genetics and racial variation. Evolutionary basis of man's behavior and social systems. (Identical to Biology 11.)

**2 (110) CULTURAL ANTHROPOLOGY (3)**

Three class hours per week.

Study of culture as the man-made environment of particular societies. Introduction to the anthropological point of view. Cross-cultural comparisons of cultural practices in specific societies and sub-cultures, including contemporary ethnic groups in the United States.

**3 (130) PREHISTORY (3)**

Three class hours per week.

Archaeological theory and method; geological time sequences of biological and cultural evolution in the Old and New Worlds. Man's existence from his paleolithic beginnings over two million years ago, from the neolithic revolution to the advent of civilization and writing.

**4 (140) ARCHAEOLOGY: FIELD EXCAVATIONS (3)**

Three lecture-field hours and 2½ lab hours per week.

Theoretical and methodological procedures in field archaeology, including scientific excavation of prehistoric San Mateo County archaeological sites, processing and cataloging of artifacts, burials and cultural features. (Fall only.)

**8 (150) CULTURAL CONTRIBUTIONS OF BROWN AND RED PEOPLES (3)**

Three class hours per week.

Cultural contributions including art, drama, music, dance, and dress patterns intrinsic to the culture of Brown and Red peoples. The significance of each of these art forms to American life and how they have affected the American scene. (Identical to Ethnic Studies 8.)

**18 (170) MAGIC, SCIENCE, AND RELIGION (3)**

Three class hours per week.

A cross-cultural study of preliterate societies' beliefs about the nature of reality, and their religious, scientific, and magical practices as a consequence of these beliefs. Their techniques for controlling both the natural and the supernatural.



**48 (580) SELECTED TOPICS IN ANTHROPOLOGY (1-3)**

*Hours by arrangement.*

Selected topics in Anthropology not covered by regular catalog offerings. Course content and unit credit to be determined by the Social Science Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture or lecture/laboratory class.

**49 (590) SPECIAL PROJECTS (1-2)**

*Hours by arrangement. Prerequisite: 3.0 GPA in subject field.*

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

## Architecture

**1a SURVEYING (2)**

*Two lecture and 3 lab hours per week for 12 weeks. Prerequisite: Math. 21 or equivalent with grade of C or better, or high school preparation including 1½ years of Algebra, one year of Geometry and one semester of Trigonometry with grade C or better.*

Theory of measurements in surveying; measurement of distance, differential leveling and measurements of angles and directions, stadia techniques and topographic mapping.

**4 INTRODUCTION TO ARCHITECTURE (1)  
(Credit/No Credit)**

*Three class hours per week for first six weeks of fall semester.*

An intensive introduction to the problems faced by a beginning architecture student; academic and professional requirements, opportunities, available areas of specialization.

**7a-7b BUILDING PROCESS AND CONSTRUCTION MATERIALS (3-3)**

*Three lecture hours per week. Need not be taken sequentially.*

Examines the roles of the people and organizations that comprise the building industry and determine its functioning, followed by study of the characteristics and applications of building materials.

**10 SURVEY OF CONTEMPORARY ARCHITECTURE (3)**

*Three class hours per week.*

Basic values in contemporary architecture; its relationship to the environment, the individual and society. The home, the neighborhood, the region. Outstanding architects and planners and their contributions. Films, slides and individual research.

**11 GRAPHICS (2)**

*One lecture and three lab hours per week plus two hours by arrangement. Prerequisite: Concurrent enrollment in an Architecture course, or equivalent.*

Representational freehand drawing for Architecture majors, covering perspective, composition and specific techniques in black and white media, including introduction to the use of photography. A single lens reflex camera is required. (May be repeated for a total of 4 semester units.)

**12 GRAPHICS (1)**

*Three lab hours per week. Prerequisite: Concurrent enrollment in an Architecture course, or equivalent.*

Representational freehand drawing for Architecture majors, covering perspective, composition and specific techniques, using brush and water color. (May be repeated for a total of two semester units.)

**13 ARCHITECTURAL PHOTOGRAPHY (2)**

*One lecture plus two lab hours per week by arrangement. Prerequisite: Arch. 11 or equivalent.*

The use of photography as a visual process in the interpretation of architecture. Techniques of preparing a portfolio for transfer to professional schools of architecture.

**14 ESSENTIALS OF DRAFTING (3)**

*Six class hours per week.*

Introduction to history and principles of graphic communication. Use of instruments, drawing board geometry, lettering, technical sketching, orthographic projection, sectioning and dimensioning, pictorial drawing. Fundamentals of architectural and topographic drafting. (Fall only.)

**15a INTRODUCTION TO DRAWING AND PERSPECTIVE (2)**

*Six class hours per week. Prerequisite: Arch. 11, Math 12 or equivalent, Arch. 14 or equivalent.*

Basic techniques in the graphic communication of architects: orthographic and isometric projection, descriptive geometry, mechanical perspective, and shades and shadows.

**15b DELINEATION (3)**

Two lecture and four lab hours per week. Prerequisites: Arch. 11, 12, 15a.

Three-dimensional representations with various drawing media which will enable the student to express architectural ideas and designs.

**16 STATICS (3)**

Three lecture hours per week. Prerequisite: Concurrent enrollment in Math. 23a or 31.

The analysis of forces and their effects on rigid body structures by both analytical and graphical methods in two and three dimensions. (Spring only.)

**17 STRENGTH OF MATERIALS (3)**

Three lecture hours per week. Prerequisite: Arch. 16.

Analysis of stresses and deformations caused by forces acting on simple structures; selection of beams, columns and joint configurations in the process of design. Introduction to statically indeterminate structures. (Fall only.)

**18 STRESS ANALYSIS (2)**

Two lecture hours per week. Prerequisites: Arch. 16, 17; Math. 23a.

Stress analysis of statically determinate and indeterminate structures. Deflection theory. Synthesis and analysis in the structural design process. (Spring only.)

**21 ARCHITECTURAL DESIGN (4)**

Three lecture and three lab hours per week plus three hours by arrangement. Prerequisites: Arch. 14 or equivalent, and concurrent enrollment in Arch. 11. Arch. 14 may be taken concurrently.

The principles of Architecture and its unique language. An investigation into the major facets of the profession, from basic design and methods of expression and presentation to the function of an architect, environmental analysis, form and composition, and basic design.

**22 ARCHITECTURAL DESIGN AND MATERIALS (4)**

Three lecture and three lab hours per week plus three hours by arrangement. Prerequisites: Arch. 21, concurrent enrollment in Arch. 12 and Arch. 16.

Principles of architectural design, synthesis of form, space and color, aesthetic and environmental aspects. Introduction to schematic presentation, preliminary studies in spacial relationships involving human and architectural criteria. Introduction to the language and application of building materials.

**23 ARCHITECTURAL DESIGN AND PRACTICE (4)**

Three lecture and three lab hours per week plus three hours by arrangement. Prerequisites: Arch. 22 and concurrent enrollment in Arch. 17. Recommended: Arch. 1a.

Architectural design, involving advanced projects, environmental esthetics and programming as design determinates. Introduction to electrical, mechanical and plumbing systems.

**24 ARCHITECTURAL DESIGN AND PRACTICE (4)**

Three lecture and three lab hours per week, plus three hours by arrangement. Prerequisites: Arch. 23 and Arch. 17.

Architectural design involving advanced projects. Introduction to structural systems, details and analysis, with emphasis on integrated design solutions. Introduction to the language of working drawings as a mean of architectural communication.

**47 COOPERATIVE EDUCATION (1-4)  
(Credit/No Credit)**

Work experience in a field related to a career goal, supplemented by individual counseling from an instructor-coordinator. (See Page 130.)

**48 SELECTED TOPICS IN ARCHITECTURE (1-3)**

Hours by arrangement.

Selected topics in Architecture not covered by regular catalog offerings. Course content and unit credit to be determined by the Math/Science Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

**49 SPECIAL PROJECTS (1-2)**

Hours by arrangement. Prerequisite: 3.0 GPA in subject field.

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

**115 GARDEN DESIGN (3)**

Two lecture and three lab hours per week.

Introductory graphics, drafting, environmental planning and design for the garden landscape. (Identical to Architecture 115.) (Fall only.)

**120 LANDSCAPE DESIGN (3)**

Two lecture and three lab hours per week. Prerequisite: Architecture 115.

Advanced graphic techniques, environmental planning and design, planting, structures, engineering, materials, and history of the landscape. (Horticulture 120 is identical to Architecture 120.)

## Art

*Studio classes may be taken for credit four times.*

### 1a HISTORY OF ART (3)

*Three lecture hours per week.*

Ancient, Classic, Early Christian and Medieval art. A survey of man's expression of art from the days of the cave man until the late Middle Ages, with emphasis on architecture and sculpture.

### 1b HISTORY OF ART (3)

*Three lecture hours per week.*

A survey of Gothic, Renaissance and Baroque art. Emphasis on the development of painting from the 14th to the 18th centuries.

### 1c HISTORY OF ART (3)

*Three lecture hours per week.*

A survey of European and American art from mid-18th Century until the present. Emphasis on the development of modern painting as a reaction against earlier traditions.

### 1d HISTORY OF ORIENTAL ART (3)

*Three lecture hours per week.*

Introduction to the art of India, China and Japan. Study of selected works of sculpture, architecture and painting in relation to their historical and cultural settings. Special attention to works in the Brundage collection, M. H. de Young Memorial Museum.

### 2a-2b DRAWING AND COMPOSITION (3-3)

*Six lecture-critique-lab hours per week. Prerequisite: 2a-None; 2b-Art 2a.*

**2a** — Study of three-dimensional form and space relationship, with black and white rendering of line, mass and values through a sequence of original problems based on underlying geometric forms. **2b** — Advanced composition; further study of three-dimensional form, in black and white and in color; illustration; experimental pictorial composition.

### 3a-3b COLOR TECHNOLOGY (3-3)

*Three lecture hours per week. (A minimum of three hours of preparation per week required for class.) Prerequisite: 3a – Art 2a, 5a; 3b-Art 3a.*

**3a** — Course study is based on the psychological perception of color and the aesthetics of harmony. Stressed is the use of color for all areas of visual communication, and not the usual class approach as one of mixing color. **3b** — Continuation of the above with consideration of each individual student's special interest and planned career within the area of visual communication.

### 4 PERSPECTIVE (2)

*Two lecture hours per week.*

Fundamentals of perspective necessary for illustrating landscapes, still-life objects and groups of buildings. (Does not meet requirements of Mechanical or Architectural Drafting.)

### 5a DESIGN: TWO-DIMENSIONAL (3)

*Six lecture-critique-lab hours per week.*

Development of problems dealing with two-dimensional design, such as repeat pattern, collage, mosaic, texture and line studies. Exploration of media and techniques is encouraged.

### 5b DESIGN: THREE-DIMENSIONAL (3)

*Six lecture-critique-lab hours per week. Prerequisite: Art 5a.*

Volume line and space studies using paper, wire, wood, string and plaster of paris construction. Mobiles, stabiles and similar objects are created.

### 6a OIL PAINTING (3) (Formerly Painting, Two Dimensional)

*Six lecture-critique-lab hours per week. Prerequisite: Art 2a-2b; 3a recommended.*

Introduction to basic techniques as applied to still-life, landscape, the human figure. Emphasizing the use of value, color and light to model forms and create the illusion of 3D objects in space.

### 6b PAINTING: THREE-DIMENSIONAL (3)

*Six lecture-critique-lab hours per week. Prerequisite: Art 6a.*

Continuation of Art 6a with increased emphasis on technique, color and composition as a means of achieving personal expression. (May be repeated once for credit.)

### 7a-7b WATERCOLOR (3-3)

*Six lecture-critique-lab hours per week. Prerequisites: 7a – Art 2a-2b; 3a recommended; 7b-Art 7a.*

**7a**—Through exercises and renderings, the student is made familiar with the various approaches and styles of watercolor; the importance of transparent washes, their effects and possibilities. Materials, color, moisture, and the importance of light and dark to show form are studied. **7b**—A continuation of Art 7a with emphasis on more painting experience in various styles and techniques in watercolor, such as an addition of opaque paints, and the use of collage to extend the painting experience. (May be repeated for credit.)

**10a-10b INTRODUCTION TO THE ARTS (3-3)**

Three lecture hours per week. 10a – None; 10b – Art 10b or equivalent.

**10a**—Introduction to painting, music and theatre, stressing basic elements, problems of organization and contemporary experiments with media and forms. **10b**—Intensive study of three major works from various areas of Fine Arts.

**12a LETTERING (3)**

Three lecture hours per week.

Development of proficiency in the freehand and mechanical lettering of the three main alphabetical types — Gothic, Roman and Text — with variations of these types. Emphasis is on letter proportions, character of style and proper spacing of letters and words.

**15 LIFE DRAWING (3)**

Six lecture-critique-lab hours per week. Prerequisite: Art 2a.

The human figure in action and repose, from the standpoint of classical and modern artistic anatomy, with lecture demonstration on the skeleton, musculature and surface forms. Drawing in various media from the nude model, as a basis for figure and portrait painting and sculpture. (May be repeated for credit.)

**17a-17b ETCHING (3-3)**

Six lecture-critique-lab hours per week. Prerequisite: 17a—Art 2a, 2b or equivalent; 17b—Art 17a.

**17a**—An introduction of the Intaglio etching process as a fine art, with emphasis on traditional methods in the practice of engraving, the timed etch in line and aquatint, soft ground, lift, drypoint and mezzotint and their printing in value and color. **17b**—An advanced course in Intaglio etching as a fine art, with emphasis on contemporary methods of color printing. (May be repeated for credit. Extra supplies may be required.)

**20a-20b CERAMICS (3-3)**

Six lecture-critique-lab hours per week. Prerequisite: 20a – None; 20b – 20a.

Elementary clay construction including pinch, coil, and slab; methods of ornamentation, glazing, firing, introduction to potters wheel. (20b may be repeated for credit. Extra supplies are required.)

**21a-21b GLASS BLOWING (3-3)**

Six lecture-critique-lab hours per week.

**21a**—An introduction to the study of glass blowing and flat glass design. Theory and practice of designing and applying materials to stained glass. **21b**—Emphasis on three-dimensional design. (May be repeated for credit.)

**22 SCULPTURE (3)**

Six lecture-critique-lab hours per week.

Beginning clay modeling and an introduction to stone carving. Projects deal with both abstract and human forms. Nude models are used. Analysis of form for realistic expression is stressed in dealing with the human form. (May be repeated for credit.)

**23 INTERMEDIATE SCULPTURE (3)**

Six lecture-lab-critique hours per week. Prerequisite: Art 22 or equivalent.

Armature building, mold making and casting are stressed. The student is introduced to a variety of materials and tools and their proper usage. (May be repeated for credit. Extra supplies may be required.)

**40 VISUAL PERCEPTION (3)**

Three lecture hours per week.

Visual exploration into natural forms and man-made objects as an expression of art, with emphasis on their relationship to the elements of design. In-depth study of photography, art and design. Field trips to museums and galleries. (Extra supplies may be required.)

**41a ELEMENTARY PHOTOGRAPHY, BLACK & WHITE (3)**

Six lecture-critique-lab hours per week. Prerequisite: Art 40, 2a or 5a, or concurrent enrollment.

Introduction to basic black and white photographic skills and equipment. Precise methods of negative developing, printing, and finishing the fine photograph. Extensive darkroom work. Portfolio is produced. (Extra supplies may be required.)

**41b INTERMEDIATE PHOTOGRAPHY, BLACK & WHITE (3)**

Six lecture-critique-lab hours per week. Prerequisite: Art 41a. For students who have basic black and white camera and



darkroom skills. Integration of exposure and development techniques including zone system. Portfolio is produced. (Extra supply charges may be required.)

#### 41c PHOTOGRAPHY WORKSHOP (3)

*Six lecture-critique-lab hours per week. Prerequisite: Art 41a.*

The broader aspects of technical perfection and visual awareness. Contemporary and creative forms of photographic presentations are explored, with emphasis on experimental techniques. (Extra supplies may be required.)

#### 43a-43b COLOR PHOTOGRAPHY (3-3)

*Six lecture-critique-lab hours per week. Prerequisite: 43a—Art 41a; 43b—Art 43a.*

**43a**—Introduction to the use of color materials as an expressive media. Special emphasis on color exposure, transparency and negative development, and the subtractive method of color printing. Instructional materials fee required. **43b**—Emphasis on more refined control of color materials and a more cohesive portfolio. (Extra supplies may be required.)

#### 47 COOPERATIVE EDUCATION (1-4) (Credit/No Credit)

Work experience in a field related to a career goal, supplemented by individual counseling from an instructor-coordinator. (See Page 130.)

#### 48 SELECTED TOPICS IN ART (1-3)

*Hours by arrangement.*

Selected topics in Art not covered by regular catalog offerings. Course content and unit credit to be determined by the Fine Arts Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture or lecture/laboratory class.

#### 49 SPECIAL PROJECTS (1-2)

*Hours by arrangement. Prerequisite: 3.0 GPA in subject field.*

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

#### 51 RENDERING TECHNIQUES (3)

*Six lecture-critique-lab hours per week. Prerequisites: Art 2a-2b, Art 5a.*

Illustration techniques and tools of the commercial artist;

professional procedure in developing rendering; development of an illustration from a pencil rough to a finished comprehensive.

#### 52 FIGURE DRAWING (2)

*Four lecture-critique-lab hours per week.*

Drawing the human figure from both live models and plaster anatomical casts using charcoal, conte, and ink. Emphasis is on proportion, action, structure, form and foreshortening. (May be repeated for credit.)

#### 62a-62b— SILKSCREEN AND SERIGRAPHY (2-2)

*Four lecture-lab-critique hours per week. Prerequisite: 62a—None; 62b—Art 62a.*

**62a**—Introduction to screen printing and serigraphy; making the frame, mixing colors, and mastering and developing the technique of the paper stencil, glue and varnish, tusch methods. The photo silkscreen approach and the printing on fabrics such as T-Shirts. **62b**—Advanced problems designed to encourage student experimentation in utilizing serigraphic techniques for visual presentation.

#### 68a-68b INTERIOR DESIGN (3-3)

*Three lecture hours per week. (Either semester may be taken separately.)*

**68a** — Analysis of the modern home — site, design, furnishing and decoration. **68b** — History of furniture, with examination of "period styles," their influence on modern interior decoration and their values in solving problems.

#### 70 PORTFOLIO (1)

*Three lab hours per week. Prerequisite: Sophomore standing.*

Preparation of art and course work for a portfolio. The instructor will analyze, evaluate and suggest to the student the quality of work necessary for portfolio presentation to art schools, colleges, universities and agencies. Instruction in portfolio organization, selection of work, matting, labeling and defining the objective of the art work.

#### 80 MANAGEMENT SYSTEMS FOR INTERIOR DESIGNS (3)

*Three lecture hours per week. Prerequisites: Art 81, 82, and 83.*

Instruction in retail and wholesale procedures. Merchandising, licensing, purchasing and pricing of furnishings. The communication of ideas; designer-client relations and business practices. (Identical to Consumer Arts and Sciences 80.)

#### 81 BASIC CONCEPTS FOR INTERIOR DESIGN (3)

*Six lecture-lab hours per week.*

The nature and control of design elements and principles in two and three dimensions as related to the interior design and problem-solving process. (Identical to Consumer Arts and Sciences 81.)

**82 SPACE PLANNING (3)**  
(Formerly Art 83)

*Six-lecture hours per week.*

Organization, planning and construction of interior space to satisfy practical and aesthetic needs. The drawing, designing and planning of a residence. (Identical to Consumer Arts and Sciences 82.)

**83 GRAPHICS FOR INTERIOR DESIGN (3)**  
(Formerly Art 82)

*Six lecture-lab hours per week. Prerequisite: Art 82.*

Rendering techniques and styles in executing floor plans and elevations, utilizing the principles of graphic communication; technical sketching, pictorial drawing, sectional views and dimensioning practices. (Identical to Consumer Arts and Sciences 83.)

**84 COLOR APPLIED TO INTERIOR (3)**

*Three lecture hours per week.*

The application of color theory to aesthetic, functional and psychological uses in textile design and interior decorating. The element of color is studied and applied to interiors with consideration to texture, scale, intensity and room arrangement. (Identical to Consumer Arts and Sciences 84.)

**85a-85b HISTORY OF FURNITURE (3-3)**

*Three lecture hours per week. Prerequisite: 85a – None; 85b – Art 85a.*

**85a** — A survey of the furniture and decoration of the Western world from ancient times to the 18th Century. **85b** —A study of principal styles of furniture, accessories and architectural details of the 18th Century through contemporary furniture and decoration of the 20th Century. (Identical to Consumer Arts and Sciences 85a-85b.)

**87 MATERIALS AND APPLICATION (3)**

*Three lecture hours per week.*

An analysis of the functional use and aesthetic effect of various materials, including synthetics, masonry, metal, wood, glass, leather, fabric, carpeting, paint, paper and plastics. (Identical to Consumer Arts and Sciences 87.)

**88 INTERIOR DESIGN WORKSHOP (3)**

*Six lecture-lab hours per week. Prerequisites: Art 81, 82, 83, 84, 85a-b, 87.*

Development of contemporary and period design in interiors and furniture. Learning to work with the client, suppliers, contractors and architects; estimating, bids, and contracts. (Identical to Consumer Arts and Sciences 88.)

**89 INTERIOR DESIGN PORTFOLIO AND PRESENTATION (1)**

*Three class hours per week. Prerequisite: Art 88.*

An occupational course for the advanced student in Interior Design, emphasizing professional presentation of interior design projects to potential clients and potential employers. (Identical to Consumer Arts and Sciences 89.)

## Astronomy

**1 GENERAL ASTRONOMY (4)**

*Three lecture and three lab hours per week. Prerequisite: Plane Geometry and Intermediate Algebra.*

A survey of current concepts of the universe with an emphasis on the physical principles involved. Designed primarily for science majors. Astronomical tools and techniques, the solar system, the stars, the galaxies, cosmology.

**10 INTRODUCTION TO ASTRONOMY (3)**

*Two lecture hours and one recitation hour per week.*

Survey of astronomy satisfying science requirements in state colleges and universities. Includes descriptive material on the solar system, stars, galaxies and life in the universe, together with an introduction to the methods employed by astronomers in gathering information.

**15 GENERAL COSMOLOGY (3)**

*Three lecture hours per week. Prerequisite: Astr. 10.*

Current topics, theories and problems of modern astronomy, including the origin and evolution of the solar system, the stars and the universe, and the phenomenon of life in the universe. Readings from current journals. Occasional observation sessions.

**16 LIFE IN THE UNIVERSE (3)**

*Three lecture hours per week. Prerequisite: Astro. 10.*

Study of formation of planetary systems. Likelihood of development of life elsewhere and its detection. Emergence of intelligence and prospect of communication with extraterrestrial civilizations.

78-79

#### 48 SELECTED TOPICS IN ASTRONOMY (1-3)

*Hours by arrangement.*

Selected topics in Astronomy not covered by regular catalog offerings. Course content and unit credit to be determined by the Math/Science Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

#### 49 SPECIAL PROJECTS (1-2)

*Hours by arrangement. Prerequisite: 3.0 CPA in subject field.*

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

repair of automobiles for the home consumer. Emphasis is on those repairs which can be performed in the average homeowner's garage.

## Biology

#### 1 INTRODUCTION TO THE LIFE SCIENCES (3)

*Three lecture-demonstration hours per week.*

Fundamental principles of life. The awareness of plant and animal interrelations and interdependencies. Man's role in the world of living things is examined in relation to contemporary problems. (This course is intended for non-science majors with no previous experience in the biological sciences.)

#### 2 GENERAL BIOLOGY (4)

*Three lecture hours and three lab or field hours per week.*

A study of the principles of the biological sciences. Topics include: origin and evolution of life, cellular nature of living things, genetics, ecology, life cycles, and natural history. (Extra supplies may be required.)

#### 3 PLANTS AND MAN (3)

*Three lecture-field hours per week.*

Basic principles of the living state as seen in plants. Plant structure and function; plant genetics and evolution; economic and cultural importance of plants to man.

#### 4 SELECTED TOPICS IN NUTRITION (3)

*Three lecture hours per week. Recommended: Course in Biology or Nutrition.*

Discussion will vary depending upon student interest and current trends. A study of in-born errors in metabolism, iatrogenic malnutrition, diabetes, mineral nutrition, childhood obesity, fasting and starvation, artery and heart disease, cholesterol, nutrition and the pill, and nutrition and dental health.

#### 5 INTRODUCTION TO ECOLOGY (3)

*Three lecture hours per week. Recommended: Biology 1 or 2.*

Emphasis on ecology and natural history of California. The ecological aspects of the plant and animal groups and their controls by geology, climate, each other, and by man.

#### 7 THE HUMAN MACHINE (3)

*Three lecture hours per week. Prerequisite: Biology 1 or 2.*

## Audio-Visual

#### 61a-61b AUDIO-VISUAL AIDS (1-1)

*One lecture hour, two lab hours by arrangement, per week.*

Techniques of operation and care of equipment (motion picture, slide, filmstrip and overhead projectors). Production of projectiles for the various projectors. (Of special value to those seeking teaching as a career, and for all prospective candidates in the fields of public relations, music and communications.)

## Automotive Technology

#### 51 BASIC MAINTENANCE AND ECONOMICS OF THE AUTOMOBILE (2)

*Two class hours per week.*

How to minimize the cost of automobile ownership. How an automobile works and what tools and procedures are used to maintain its life and reliability. Practical experience in maintaining and evaluating the used car. This course is designed for students who have had little or no previous mechanical experience.

#### 52 BASIC AUTOMOTIVE REPAIR FOR THE CONSUMER (2)

*One lecture and three lab hours per week. Prerequisite: Automotive Technology 51 or equivalent.*

Theory and practice in the use of tools and materials in the

78-79

COLLEGE OF SAN MATEO  
SAN MATEO, CALIF.

Study of the human body, its anatomy and physiology. The relationship of the cell to functional systems, i.e., nervous system, respiratory system, endocrine system. Recommended for students in the vocational nursing and medical assisting programs.

**8 INTRODUCTION TO PLANT SCIENCE (3)**

*Two lecture and three lab hours per week.*

Introduction to principles of plant structure, function, and reproduction. (Identical to Horticulture 118.)

**9 ANIMALS AND MAN (3)**

*Three lecture hours per week.*

Introduction to animals around us and their relationship to man. Major emphasis on animals as prey, servants, companions and bearers of disease. General education course for non-science majors.

**11 PHYSICAL ANTHROPOLOGY (3)**

*Three lecture/discussion hours per week.*

Man's place in nature. Topics include man's evolution, genetics and racial variation. Evolutionary basis of man's behavior and social systems. (Identical to Anthropology 1.)

**12 INTRODUCTION TO PSYCHOSOMATIC ILLNESS (3)**

*Three lecture hours per week.*

An introduction to the psychosomatic concept of disease and the physiological changes the body undergoes when the mind perceives a life situation as stressful. Basic principles of psychology as they apply to psychosomatic disease; psychophysiological components of various chronic and acute diseases. Designed to help students identify and appreciate potential stress-inducing situations.

**14 INTRODUCTION TO FISHERIES AND WILDLIFE MANAGEMENT (3)**

*Three lecture hours per week.*

Principles of fisheries and wildlife management and conservation. History of wildlife conservation and the ecological basis for managing wildlife. Education and training for employment in the field of wildlife management.

**15 ESSENTIALS OF CONSERVATION (3)**

*Three lecture hours per week.*

Consideration of the national resources of the U.S., including forests, grasslands, wildlife, water, marine, soils, minerals, and recreational problems and practices in resource management.

**16 INTRODUCTION TO FORESTRY (3)**

*Three lecture hours per week.*

Study of the forest as a biological community; scientific and economic basis of forestry, including topics from ecology, dendrology, entomology, pathology, silviculture, mensuration, utilization and economics. Careers in forestry. Field trip may be required.

**17 FORESTRY SURVEYING (3)**

*Two lecture and three lab hours per week. Prerequisite: Completion of or concurrent enrollment in Geometry (Math. 12).*

Introduction to theory and practice of forest surveying. Instruction in use of forest surveying instruments: hand compass, staff compass, abney levels, topographic and engineer's tape, engineer's level and transit. Field problems. Field trip may be required.

**18a-18b LANDSCAPE TREES AND SHRUBS (2-2)**

*Three lecture-lab hours per week.*

Plant classification, description, nomenclature, morphology, use of keys. The study in class of plants commonly used in California parks and gardens. Emphasis on plant identification. (Identical to Horticulture 95a-95b.)

**19 PLANT GROWING (3)**

*Two lecture and three lab hours per week.*

Soil, plant and fertilizer relationships. Physical, chemical and biological properties of soils as related to horticulture; soil sampling and testing; application techniques of fertilizer materials and soil amendments. Practical experience in growing plants in the greenhouse. (Identical to Horticulture 112.)

**21 GENERAL ZOOLOGY (5)**

*Three lecture and six lab hours per week. Prerequisite: High school biology or equivalent with grade C or better.*

Introduction to the principles of animal biology. Topics include: molecular basis of life, structure, function and behavior as seen in invertebrates and selected chordates, ecology, zoogeography, and animal evolution. Extra supplies may be required.

**22 GENERAL BOTANY (5)**

*Three lecture and six lab hours per week. Prerequisite: High school biology or equivalent with a grade C or better.*

Principles of biology as illustrated by plants with emphasis on structure, physiology and reproduction in green plants. Extra supplies may be required.



**23 ANATOMY (4)**

Three lecture and three lab hours per week. Prerequisite: High school biology or equivalent with grade C or better.

Structure of the human body. Laboratory study and dissection of human and higher mammals. (Primarily intended for students of Nursing, Physiotherapy, Physical Education and other related fields. Elective for Pre-Dental, Pre-Medical and Pre-Veterinarian students.) Extra supplies may be required.

**24 INTRODUCTORY PHYSIOLOGY (5)**

Three lecture and six lab hours per week. Prerequisite: One course selected from Biology 21, 23, or 27. A knowledge of elementary chemistry and physics is recommended.

Functions of the organs and systems of the human body. Intended for students of Nursing, Physiotherapy, Physical Education, Psychology and other related fields. Elective for Pre-Dental, Pre-Medical and Pre-Veterinarian students. Extra supplies may be required.

**25 GENERAL MICROBIOLOGY (5)**

Three lecture and six lab hours per week. Prerequisite: Chemistry 1a-lab or Chemistry 30a-30b, college-level Biology course. Bio. 27 recommended.

Introduction to the morphology and physiology of microorganisms, their control by chemical and physical means, and their role in the environment, including the disease process. Laboratory techniques in culture and identification. (Recommended for majors requiring a 5-unit course in Microbiology/Bacteriology: Life Sciences, Biochemistry, Nutrition, Agriculture, Pre-Dentistry, Nursing, Agriculture, Sanitary Engineering.) Extra supplies may be required. Fall only.

**26 GENERAL BACTERIOLOGY (4)**

Two lecture and six lab hours per week. Prerequisite: One semester of a college-level Chemistry course. College-level Biology course recommended.

Introduction to the microbial world, the role of microorganisms in nature, and host-parasite relationships. (Recommended for majors requiring a 4-unit course in Microbiology/Bacteriology especially Nursing and Allied Medical Science.) Extra supplies may be required. Fall only.

**27 INTRODUCTION TO CELL BIOLOGY (4)**

Three lecture and three lab hours per week. Prerequisite: Chemistry 1a, or Chemistry 30a-30b.

Evaluation and analysis of the living cell and its component parts. The metabolism of the cell and bioenergetics involved are examined as they relate to cellular development, growth, and reproduction. (Recommended for all Life Science and Medical Science majors.) Extra supplies may be required.

**30 MARINE BIOLOGY (3)**

Two lecture and three lab/field hours per week. Recommended: One college-level Biology course.

Introduction to physical oceanography, marine animals, marine plants and marine ecology. Major emphasis is given to the natural history of marine forms, including their taxonomy, morphology and physiology. Bays, estuaries and oceans are described as habitats. Extra supplies may be required.

**33 GENETICS (3)**

Three lecture hours per week. Prerequisite: One course in the Biological Sciences.

Introduction to the principles of heredity in plants and animals with specific reference to inheritance and biochemical genetics. The importance of heredity in evolutionary concepts.

**37 DEVELOPMENT OF BIOLOGICAL CONCEPTS (3)**

Three class hours per week. Prerequisites: Twelve or more units of college work and an overall "C" average or better. One course in Life Science is recommended.

Description of the beginnings, growth and development of science in the ancient cultures, Greek and Mediterranean cultures, and the Dark Ages. Rebirth of science during the Renaissance, historical foundations of modern biology, and modern biological themes.

**40 NATURE STUDY (3)**

One lecture and six lab hours per week, with day and weekend field trips to be arranged. Prerequisite: One course in the Biological Sciences.

Study of selected common organisms, both plant and animal; natural history and distribution of Bay Area organisms. Designed to meet requirements of Education majors.

**41 ANATOMY AND PHYSIOLOGY (5)**

Three lecture and six lab hours per week. Required for AARN Program. Prerequisite: Previous course in Biological Sciences.

Survey of basic human anatomy and of the principles of physiology. Emphasis is on those areas which have a direct correlation with the practice of nursing. Extra supplies may be required.

**42 MICROBIOLOGY FOR NURSES (4)**

Three lecture, four lab hours, plus one hour by arrangement per week. Required for A.A. Degree Nursing Program. Prerequisite: Biology 41.

Basic concepts of the structure and function of microorgan-

isms, especially as related to the host-parasite relationship. Control and prevention of the infectious diseases of man. (Spring only.)

**47 COOPREATIVE EDUCATION (1-4)**  
(Credit/No Credit)

Work experience in a field related to a career goal, supplemented by individual counseling from an instructor-coordinator. (See Page 130.)

**48 SELECTED TOPICS IN BIOLOGY (1-3)**

Hours by arrangement.

The topic of this course will be different each semester. It is intended to be a course covering a subject of relevance, but is not intended to be a permanent offering of the Division.

**49 SPECIAL PROJECTS (1-2)**

Hours by arrangement. Prerequisite: 3.0 GPA in subject field.

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

**52 BACTERIOLOGY FOR VOCATIONAL NURSES (2)**

Two lecture hours per week. Prerequisite: Enrollment in either the Dental Assisting Program or the Licensed Vocational Nursing Program. Recommended for Medical Assistants.

Introduction to microbiology with emphasis on morphology, physiology, transmission and control of pathogenic forms. (Spring only.)

Building regulations which pertain to types of construction, areas of construction, height and separation laws, exits of buildings, fire resistance, flame spread, and sprinkler systems.

**63c (720) ELECTRICAL WIRING INSPECTION (3)**

Three lecture hours per week.

Electrical wiring for building inspection, covering single-family dwellings, multi-family dwellings, commercial locations (wiring plans for a store building), industrial locations (power installations), specialized and hazardous locations.

**63d (730) PLUMBING INSPECTION (3)**

Three lecture hours per week.

Building regulations which pertain to drainage systems, vents and venting, plumbing, water systems, building sewers, and gas piping.

**63e (740) MECHANICAL CODE (3)**

Three lecture hours per week.

Building regulations which pertain to mechanical codes of construction, heating equipment, floor furnances, wall furnances, unit heaters, venting, ducts, ventilation systems, evaporative systems, refrigeration systems and equipment.

**63f (750) PLAN CHECKING, NON-STRUCTURAL (3)**  
(Formerly Plan Checking, Structural)

Three lecture hours per week.

Study of occupancy requirements, types of construction, fire safety and State of California residential insulation requirements.

## Building Inspection

**63a (700) TECHNIQUES OF INSPECTION (3)**

Three lecture hours per week.

Organization and methods of inspecting soils, excavations, foundations, wood framing, masonry, concrete, and steel structures.

**63b (710) UNIFORM BUILDING CODE INTERPRETATION (3)**

Three lecture hours per week.

## Business

Students graduating with a major in the field of business must meet the following subject requirements:

**Mathematics—Bus. 50 or 51.** (See course descriptions on page 116.) Students who are taking the transfer program may comply with the Business Math requirement by successful completion of an appropriate transfer mathematics course.  
**Bus. 10—Introduction to Business.**

**2 ELEMENTARY STATISTICS (4)**

See Economics 2.

**8a (BUS 200) HUMAN RELATIONS (3)**

Three class hours per week.

Application of psychological principles to problems of self-management and personal growth essential for successful living, including interpersonal relationships on the job.

**8b (BUS 201) HUMAN RELATIONS (3)**

Three class hours per week. Prerequisite: Bus. 8a.

The study of human behavior and the necessity of taking positive action to achieve better interpersonal relationships. Discussion topics center around personal growth and communication problems in groups and organizations, such as business, community, social groups, school, and home.

**10 (BUS 290) INTRODUCTION TO BUSINESS (3)**

Three class hours per week.

An introductory survey of the nature, organization and structure of the American free enterprise system. A basic orientation course in business designed to develop a realization of the role of business in the economy and as an aid in selecting a field of vocational specialization. (Required of all students majoring in Career Business Programs. Satisfies Mgmt. 99 requirement for Management Certificate Program.)

**11 (BUS 480) FUNDAMENTALS OF SALESMANSHIP (3)**

Three class hours per week. Prerequisite: Business 10 or equivalent.

Covers the role and impact of personal selling in the marketing process. Considers principles and techniques employed effectively in the direct sales process. Includes sales demonstrations by guests from the direct selling field and practical sales presentations by students.

**12 (BUS 490) ADVERTISING (3)**

Three class hours per week. Not open to first-semester freshmen.

The role of advertising in our economic life, with emphasis on advertising methods and media.

**15 FASHION AND THE CONSUMER (3)**

Three lecture hours per week.

A consideration of the apparel needs of the various groups and of many forces (economic, sociological, psychological and technological) which influence the consumer and the fashion market. (Identical to CA&S 15.)

**16 (BUS 520) PRINCIPLES OF RETAILING (3)  
(Formerly Retail Management)**

Three class hours per week. Prerequisite: Bus 10 and Bus. 50 or 51.

Retail processes emphasized include merchandise planning and control, buying and receiving, pricing, sale promotion and customer service.

**17 FASHION COORDINATING AND DISPLAY (3)**

Three lecture hours per week. Prerequisite: Consumer Arts and Sciences 18 or concurrent enrollment.

Study of the elements of fashion which make for success in fashion, merchandising: store windows, interior display, sales promotion activities and techniques in displaying fashion. (Identical to CA&S 17.)

**18 FASHION MERCHANDISING (3)  
(Formerly CA&S 16)**

Three lecture hours per week.

Structure of ready-to-wear apparel industry, including the functions and policies of the various types of retail stores as they relate to the promotion of fashion merchandising; consideration of the various factors which affect the merchandising of fashion apparel. (Identical to CA&S 18.)

**24 (BUS 500) MARKETING (3)**

Three class hours per week. Prerequisite: Bus. 10 or Mgmt. 99.

Broad study of marketing principles and methods applicable to both consumer and industrial goods and services. Major topics include retailing and wholesaling consumers' goods, marketing industrial goods, marketing policies and practices, and government relationship to marketing.

**25 (BUS 510) MARKETING RESEARCH (3)**

Three class hours per week. Prerequisite: Business 24.

Survey of marketing research and application as a management tool. The approach is essentially practical rather than theoretical.

**30 (MGMT 450) PRINCIPLES OF BANK OPERATIONS (3)**

Three hours per week.

Survey of the fundamentals of bank functions and operations, including bookkeeping operations of day-to-day activity, bank services related to loans, savings, trusts. Federal Reserve System as related to bank operations.

**31 (MGMT 460) INSTALLMENT CREDIT (3)**

Three class hours per week.

Study of the broad field of installment credit and lending from the standpoint of both the public relations and profit position.

**32 (MGMT 500) FINANCIAL STATEMENT ANALYSIS (3)**  
**(Formerly Analyzing Financial Statements)**

Three class hours per week.

Study of financial statement analysis: balance sheet, profit and loss statement, analysis of working capital changes and inventories, relating balance sheet accounts to sales.

**35 (BUS 340) PERSONAL MONEY MANAGEMENT (3)**

Three class hours per week.

Develops understanding and skill in dealing with family and personal finance problems. Topics include: financial planning, borrowing money, insurance, introduction to investments, estate planning, real estate and taxes.

**45 CONSUMER ISSUES AND BUYING PROBLEMS (3)**

Three lecture hours per week.

Study of problems facing the consumer; relationship of quality and cost to food, clothing, housing; legislation and agencies protecting the consumer. (Identical to CA&S 45 and Economics 45.)

**47 (BUS 597) COOPERATIVE EDUCATION (1-4)**  
**(Credit/No Credit)**

Work experience in a field related to a career goal, supplemented by individual counseling from an instructor-coordinator. (See Page 130.)

**48 (BUS 580) SELECTED TOPICS IN BUSINESS (1-3)**

Hours by arrangement.

Selected topics in Business not covered by regular catalog offerings. Course content and unit credit to be determined by the Business Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

**49 (BUS 590) SPECIAL PROJECTS (1-2)**

Hours by arrangement. Prerequisite: 3.0 GPA in subject field.

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

**50 (BUS 310) BUSINESS ARITHMETIC (3)**

Three class hours per week. Prerequisite: A percentile rating below 35 on the quantitative part of the SCAT entrance

examination. (See Business Division requirement for business mathematics.)

Fundamental arithmetic operations including the basic processes, fractions, decimals and percentages as applied to ordinary problems of business.

**51 (BUS 311) BUSINESS MATHEMATICS (3)**

Three class hours per week. Prerequisite: A percentile rating of at least 35 on the quantitative part of the SCAT entrance examination or completion of Bus. 50 with a grade of C or better.

A study of mathematics as applied to business, with emphasis on calculations involving interest, discount, negotiable instruments, financial statements and ratios, inventory pricing, depreciation, present value, central tendency and correlation.

**52 (BUS 130) SURVEY OF LAW FOR THE LAYMAN (3)**

Three class hours per week.

Survey of legal problems which confront people in their everyday life activities. Included are the courts, trials, marriage and divorce, community property, wills, trusts, succession, mortgages, trust deeds, conditional sales, crimes, torts, homesteads and the Corporate Securities Act.

**56 (SEC 401) BUSINESS ENGLISH AND COMMUNICATIONS II (3)**

Three class hours per week. Prerequisites: Beginning typing (3 units) or equivalent; Business 91 (SEC 400) or successful completion of the challenge exam.

The focus of this course is to identify, explain, and develop the communication skills and tools that contribute to effective verbal and written communications and to their effective use. (Fall only.)

**59L (SEC 470) INTRODUCTION TO LEGAL OFFICE TRAINING (3)**

Three class hours per week. Part of the Legal Secretarial Modular Program.

Duties and responsibilities of a legal secretary in various law offices — general, corporate, domestic relations, probate, patent. Introduction to legal records, statutes and codes, library work, filing, calendaring and bookkeeping procedures as related to a law office.

**65 (BUS 370) SMALL BUSINESS MANAGEMENT (3)**

Three class hours per week. Prerequisite: Bus. 10 or Mgmt. 99.

Examination of the opportunities and hazards of small business operation; designed for business students who plan to

establish or supervise a small business. Significant areas of vital interest to the prospective independent businessman are explored, including pre-opening requirements.

**66 (ACTG 100) ACCOUNTING PROCEDURES (3-4)  
(Formerly General Accounting)**

*Five class hours plus one lab hour per week. Prerequisite: Completion of or concurrent enrollment in Bus. 50 or 51, or equivalent.*

Application of accounting procedures for a small business using general and special journals, general ledger, subsidiary ledgers, petty cash records and payroll records for cash or accrual basis. Preparation of trial balances, work sheets, adjusting and closing entries, and financial statements.

**67 (SEC 500) SECRETARIAL ACCOUNTING (2-3)**

*Three class hours and one lab hour a week by arrangement for 11 weeks – 2 units; three class hours and one lab hour a week by arrangement for 16 weeks – 3 units. Prerequisite: Bus. 50, 51, or equivalent.*

Fundamentals of accounting, including instruction and practice in organizing, recording, and interpreting basic record-keeping essentials. For the student who needs a general knowledge of accounting. (Fall only.)

**69a (ACTG 180) INCOME TAX ACCOUNTING, Part I (3)**

*Three class hours per week. Prerequisites: Bus. 66 or Bus. Ad. 1a.*

Study of the procedures for computing the income tax liability of individuals in accordance with the latest income tax law and regulations. Practice in solving typical problems and in preparation of tax returns.

**69b (ACTG 181) INCOME TAX ACCOUNTING, Part II (3)**

*Three class hours per week. Prerequisite: Bus. Ad. 1a or equivalent.*

Study of the procedures for computing the income tax liability of partnerships, corporations, estates, and trusts in accordance with the latest income tax laws and regulations. Practice and solving of typical problems in the preparation of tax returns.

**70 (BUS 390) PRINCIPLES OF TRANSPORTATION (3)**

*Three class hours per week.*

Transportation in our economy; the transportation system with emphasis on rail, air, water, motor and pipeline. Development and regulation of the various modes of transportation, theory of rate-making and government controls, selected carrier problems and transportation policies.

**71 (BUS 400) TRAFFIC MANAGEMENT AND PHYSICAL DISTRIBUTION (3)**

*Three class hours per week. Prerequisite: Bus. 70 or equivalent.*

Emphasis on management of physical distribution, including the total cost concept, planning and coordinating the functions of transportation, storage, packaging, handling, inventory and location theory.

**72 (BUS 420) REGULATION OF TRANSPORTATION (3)**

*Three class hours per week. Prerequisite: Bus. 70 or equivalent.*

Fundamental principles of laws governing transportation by common carrier. History and development of transport regulation in the United States. Emphasis on Interstate Commerce Act (I.C.A.), Civil Aeronautics Authority (C.A.A.), and Federal Aviation Authority (F.A.A.) practices and procedures.

**73 (BUS 430) INTERSTATE AND TRANSCONTINENTAL RAILROAD RATES, RULES AND REGULATIONS (3)**

*Three class hours per week. Prerequisite: Bus. 70, or one year experience in the traffic or transportation field.*

Introduction to the basic structure and use of rail carrier tariffs, particularly those published by Pacific Coast Freight Bureau. Particular attention will be given to those sections of the tariff pertaining to governing rules, regulations, rates and routes. Tariff principles will be related to various types of shipments.

**74 (BUS 440) FREIGHT LOSS, DAMAGE, AND CLAIMS LAW (3)**

*Three class hours per week. Prerequisite: Bus. 70 or equivalent.*

Basic principles, procedures, and laws involved in freight loss, damage, and overcharge. Law of bailments, documentation, carrier liability, exceptions to carriers' liability, and informal complaints to I.C.C. and P.U.C.

**75 (BUS 450) INTRASTATE AND INTERSTATE MOTOR CARRIER RATES, RULES, AND REGULATIONS (3)**

*Three class hours per week. Prerequisite: Bus. 70 or equivalent.*

Basic rules, rates, and regulations applicable to intrastate and interstate motor carriers as published in the P.U.C. Tariffs, Western Motor Tariffs, and Rocky Mountain Motor Tariff bureaus.



**ADMISSIONS AND REGISTRATION**

**COLLEGE OF SAN MATEO**

**1700 W. HILLSDALE BLVD.**

**SAN MATEO, CALIFORNIA 94402**

**120** *Description of Courses (continued)*

**76 (BUS 460) AIR FREIGHT RATES, RULES, AND REGULATION (3)**

*Three class hours per week. Prerequisite: Bus. 70 or equivalent.*

Historical development of air transportation with special emphasis on air freight. Application of rates, rules and regulations in domestic and international shipment.

**77 (BUS 470) SPECIAL COMMODITIES TRANSPORT AND WAREHOUSE MANAGEMENT (3)**

*Three class hours per week. Prerequisite: Bus. 70 or equivalent.*

Emphasis on transport rates, rules, and regulations as they apply to household effects and electronic shipment. Consideration of the principles and practices of warehouse management and supervision.

**80a (INS 110) ECONOMIC SECURITY AND INDIVIDUAL LIFE INSURANCE (3)**

*Three class hours per week.*

Economic security needs, human behavior, professionalism and ethics in life and health insurance. Individual life, health, and annuity contracts. (Preparation for CLU Examination, HS 301.)

**80b (INS 120) LIFE INSURANCE LAW AND MATHEMATICS (3)**

*Three class hours per week.*

Legal aspects of contract formation, policy provisions, assignments, ownership rights, creditor rights, beneficiary designations, and disposition of life insurance proceeds. The mathematics of life insurance. (Preparation for CLU Examination, HS 302.)

**80c (INS 130) GROUP INSURANCE AND SOCIAL INSURANCE (3)**

*Three class hours per week.*

Analysis of group life and health insurance, including products, marketing, underwriting, reinsurance, premiums, and reserves. Governmental programs related to the economic problems of death, old age, unemployment, and disability. (Preparation for CLU Examination, HS 303.)

**80d (INS 140) ECONOMICS (INSURANCE) (3)**

*Three class hours per week.*

Economic principles which have an effect on the national economy, national income, price determination, business cycles, money and banking, monetary and fiscal policy, and international trade and finance. (Preparation for CLU Examination, HS 304.)

**80e (INS 150) ACCOUNTING AND FINANCE (3)**

*Three class hours per week.*

Basic accounting principles including data accumulation systems, income measurement, valuation of assets and liabilities, and financial statement analysis. The accounting process and preparation of financial statements. (Preparation for CLU Examination, HS 305.)

**80f (INS 160) INVESTMENTS AND FAMILY FINANCIAL MANAGEMENT (3)**

*Three class hours per week.*

Investment principles and their application to family finance. Yields, limited income securities, investment markets, and common stock. Family budgeting, property and liability insurance, mutual funds, variable annuities, and aspects of other investment media. (Preparation for CLU Examination, HS 306.)

**80g (INS 170) INCOME TAXATION (3)**

*Three class hours per week.*

The federal income tax system with particular reference to the taxation of life insurance and annuities. The income taxation of individuals, sole proprietorships, partnerships, corporations, trusts, and estates. (Preparation for CLU Examination, HS 307.)

**80h (INS 180) PENSION PLANNING (3)**

*Three class hours per week.*

Basic features of pension plans, profit-sharing plans, and tax-deferred annuities. Also, thrift and savings plans and plans for the self-employed. Employees Retirement Income Security Act of 1974. (Preparation for CLU Examination, HS 308.)

**80j (INS 190) BUSINESS INSURANCE (3)**

*Three class hours per week.*

Business uses of life and health insurance, including proprietorship, partnership, and corporation continuation problems. Also other business uses of life and health insurance. (Preparation for CLU Examination, HS 309.)

**80k (INS 200) ESTATE PLANNING AND TAXATION (3)**

*Three class hours per week.*

Estate and tax planning, the use of trusts, life insurance, powers of appointment, wills, lifetime gifts, and the marital deduction. (Preparation for CLU Examination, HS 310.)

**81 (BUS 360) SECURITY INVESTMENTS (3)**

*Three class hours per week. Prerequisite: Sophomore standing.*

Stocks, bonds and investment trusts; investment policies, evaluation, charting — issues and industries.

**83a-83b (R.E. 100-101) REAL ESTATE PRINCIPLES (3-4)**

**83a** — Three class hours per week; **83b** — Four class hours per week. Prerequisites: **83a** — None. Concurrent registration in Bus. 50 or 51 and 84 is recommended. **83b** — Bus. 83a and Bus. 84, or Real Estate Salesman's or Broker's License, or equivalent.

**83a** — Property, contracts, agency, financing, recordation, liens and encumbrances, taxes, escrows, land description, and real estate math. (Meets the state requirements for the broker's examination.) **83b** — Problem assignments as they relate to contracts, financing, conveyances, liens, agency, legal aspects, escrow, leasing, and real estate math. (Approved by State Dept. of Real Estate as substitute for Bus. 85 toward Broker's examination.)

**83c (R.E. 102) REAL ESTATE MATHEMATICS (1)**

One class hour per week. Prerequisite: Concurrent enrollment in Bus. 83b.

Comprehensive review of the type of mathematical problems given in the state examination for a Broker's or Salesmen's license. (This course is not intended as a substitute for Bus. 140—Real Estate Mathematics.)

**84 (R.E. 110) REAL ESTATE VALUATION, INVESTMENT AND MANAGEMENT (3)**

Three class hours per week. Recommended: Concurrent enrollment in Bus. 83a.

Development of California real estate principles, measuring changing value of money. Estimating: costs, depreciation, taxes, maintenance, return on investment. Accounting: rules — capital gains and losses, accelerated methods of calculating depreciation charges. (Meets the state requirements for the broker's examination.)

**85 (R.E. 120) REAL ESTATE PRACTICE (3)**

Three class hours per week. Prerequisite: Bus. 83a and 84, or equivalent.

Comprehensive presentation of the techniques of operating a real estate business in the State of California with emphasis on the daily activities of salesmen and brokers. (Meets the state requirements for the broker's examination.)

**87 (R.E. 130) LEGAL ASPECTS OF REAL ESTATE (3)**

Three class hours per week. Prerequisite: Bus. 83a and 84; Bus. 85 (or concurrent enrollment); or equivalent.

The practice of real estate brokerage, real estate sales, property management, real estate ownership, the management of

the building of an estate and related topics, along with a study of the facts and principles of California Real Estate Law. (Meets the state requirements for the broker's examination.)

**88 (R.E. 150) REAL ESTATE FINANCE (3)**

Three class hours per week. Prerequisite: Salesman's or broker's license, or completion of Bus. 83a and 84. Completion of Bus. 85, or may be taken concurrently.

Practices, customs and laws relating to mortgage lending and the financing of real estate, with emphasis on financing private houses. (Meets the state requirements for the broker's examination.)

**90.1 (SEC 200) BEGINNING GREGG SHORTHAND (4-5)  
(Formerly Basic Gregg Theory)**

Five class hours and two lab hours a week by arrangement for eleven weeks. Prerequisites: Enrollment in or completion of Business 91; enrollment in or completion of three units of beginning typing or equivalent.

Foundation course in Gregg Shorthand Diamond Jubilee theory.

**90.2 (SEC 201) BEGINNING GREGG SHORTHAND (4-5)  
(Formerly Shorthand, Elementary Dictation)**

Five class hours and two lab hours a week by arrangement for 5½ weeks. Prerequisites: Completion of basic shorthand theory; enrollment in or completion of three units of beginning typing; enrollment in or completion of Business 91.

Intensive dictation and theory reinforcement to achieve a minimum of 60 words a minute for three minutes.

**90.3 (SEC 210) INTERMEDIATE SHORTHAND (1-5)  
(Formerly Shorthand Speed Building)**

Five class hours and two lab hours a week by arrangement for 5½ weeks. May be taken twice for credit. Prerequisites: Ability to take dictation at 60 words a minute for three minutes; completion of or enrollment in three units of beginning typing or equivalent; enrollment in or completion of Business 91 or equivalent.

Speed development individualized for all levels of competency. May be taken concurrently with Business 90.4.

**90.4 (SEC 210) INTERMEDIATE SHORTHAND (1-5)  
(Formerly Shorthand, Pre-Transcription)**

Six class hours and two lab hours a week by arrangement for eleven weeks. Prerequisites: Ability to take dictation at 60 words a minute; enrollment in or completion of three units of intermediate typing (Bus. 92.5, 92.6, 92.7) or equivalent; Business 91 or equivalent.

Integration of English, typing, and shorthand skills to produce mailable copy.

**90.5 (SEC 220) INTENSIVE SHORTHAND DICTATION AND TRANSCRIPTION (2) Formerly Shorthand, Transcription)**

*Six class hours a week for 5½ weeks. Prerequisites: Business 90.4; ability to take dictation at 70 words a minute; Business 91; enrollment in or completion of three units of intermediate typing (Bus. 92.5, 92.6, 92.7) or equivalent.*

Production transcription with emphasis on employment standards.

**90L (SEC 260) LEGAL SHORTHAND AND TRANSCRIPTION (2)**

*Four class hours per week. Prerequisite: Proficiency in shorthand and typewriting. Part of the legal Secretarial Modular Program.*

Intensive dictation and transcription of legal correspondence, records and documents. Emphasis on shorthand speed, transcription accuracy and development of legal terminology commonly used in law offices.

**90p (SEC 230) ALPHABETIC SHORTHAND (1-3)**

*Three class hours and two lab hours per week by arrangement for 11 weeks. Prerequisites: Enrollment in or completion of Bus. 91 or equivalent; enrollment in or completion of three units of beginning typing (Bus. 92.1, 92.3, 92.4) or equivalent.*

Foundation course in alphabetic shorthand — principles, dictation, transcription. Vocational or personal use.

**91 (SEC 400) BUSINESS ENGLISH AND COMMUNICATIONS I (3)**

*Three class hours per week.*

Grammar, punctuation, spelling and word usage for business.

**Beginning, Intermediate, and Advanced typing courses use the audio-visual-tutorial method of instruction. The student may enter any desired course on any Monday during the semester and earn from one to three units of credit.**

**92.1, 92.3, 92.4 (SEC 100) BEGINNING TYPING (1-3)**

*Five class hours and one lab hour a week.*

Introduction to the keyboard; an elementary course to develop correct typing techniques, including the study of simple business letters, manuscripts, and tabulated reports.

**92.2 (SEC 150) TYPING SKILL BUILDING (1)**

*Five class hours and two lab hours a week for 5½ weeks. Prerequisite: Knowledge of keyboard. May be taken twice for credit.*

Speed and accuracy development individualized for all levels of competency. May be taken concurrently with all typing courses except 92.1.

**92.5, 92.6, 92.7 (SEC 120) INTERMEDIATE TYPING (1-3)**

*Five class hours and one lab hour a week. Prerequisites: Ability to type 30 words a minute and Beginning Typing or equivalent.*

An intermediate course to improve typing skills, to develop working knowledge of business papers through training in production typing of letters, reports, and tabulated material. Designed to prepare the student to meet entry-level employment standards.

**92.8, 92.9, 92.10 (SEC 130) ADVANCED TYPING (1-3)**

*Five class hours and one lab hour a week. Prerequisites: Ability to type 40 words a minute and Intermediate Typing or equivalent.*

Typing a variety of documents with specialized forms and vocabulary; instruction in the operation of the proportional-spaced typewriter. Designed to prepare the student to meet high-level employment standards.

**92.11 (SEC 150) MEMORY TYPEWRITER (1)**

*Open entry/open exit: 45 lab hours per semester. Prerequisite: Intermediate Typing or equivalent.*

An introduction to the capabilities of the memory typewriter. Designed to develop competency in operating an IBM Memory typewriter, preparing repetitive letters, revising simple business reports, and storing and retrieving data on magnetic media.

**93 (BUS 330) MACHINE CALCULATION (1-2)**

*Five class hours per week for 5½ weeks (three 5-week modules per semester). Students may enter at the beginning of any module. (May be repeated once for credit.) Prerequisite: Bus. 50 or equivalent.*

Instruction includes electronic display and printing calculators and the touch system of operating the 10-key adding machine. Assignments emphasize actual business situations and problems. The printing calculator is used for the second unit project.

**94 (SEC 270) WORD PROCESSING MACHINE TRANSCRIPTION (2-4)**

*Four class hours per week. Prerequisite: Typing speed of 40 wpm; Bus. 91 or equivalent.*

A foundation course in machine transcription to develop a student's skill in transcribing mailable copy. Instruction is audio-visual-tutorial.

**94L (SEC 480) LEGAL MACHINE TRANSCRIPTION (2)**

*Four class hours per week. Prerequisite: Demonstrated proficiency in typewriting. Part of the Legal Secretarial Modular Program.*

Transcription of legal documents: client, court; and general; correspondence and report.

**96 (SEC 420) FILING AND RECORDS MANAGEMENT (2)**

*Two class hours per week.*

Principles to be applied and procedures to be followed in setting up and using various types of filing systems; transfer, storage and retention of records.

**99 (SEC 460) CERTIFIED PROFESSIONAL SECRETARY REVIEW (3)**

*Three class hours per week. Prerequisite: Demonstrated proficiency in typing and shorthand.*

An intensive review course designed to prepare secretaries for the National Secretaries Association's Certified Professional Examination. Specialists review the areas of office procedures, business and public policy, economics of management, financial analysis and the mathematics of business, communications and decision making, and environmental relationships.

**100a (SEC 410) OFFICE PROCEDURES (3)**

*Four class hours per week plus one hour by arrangement. Prerequisites: Bus. 91 or successful completion of a proficiency exam; completion of three units of Intermediate Typing or equivalent; Bus. 96 or equivalent; Bus. 56.*

Intensive course in application of skills in the wide range of activities performed in secretarial and office administration. (Fall only.)

**100b (SEC 450) OFFICE ADMINISTRATION (3)**

*Five class hours per week. Prerequisite: Bus. 100a or equivalent.*

Integration of training through simulated office experience with emphasis on techniques of administration.

**100L (SEC 490) LEGAL SECRETARIAL PROCEDURES AND OFFICE ADMINISTRATION (3)**

*Five class hours per week. Prerequisite: Demonstrated proficiency in typewriting. Part of the Legal Secretarial Modular Program.*

Intensive course in specialized procedures applicable to the secretarial duties in law offices. General reference is made to legal duties per se; specific instruction in legal secretarial routines and documents operative in California.

**102 (SEC 310) INTRODUCTION TO WORD PROCESSING (1-4) Formerly Beginning Word Processing**

*Two lecture and four lab hours per week. Prerequisites: Bus. 91 or equivalent; typing speed of 50 wpm.*

Basic training in the operation of automatic typewriters, dictating, and transcribing equipment for the purpose of meeting general job requirements in the area of word processing. Advanced applications are not covered in this introductory course.

**111 (R.E. 270) REAL ESTATE SALESMANSHIP (3) (Formerly Fundamentals of Real Estate Salesmanship)**

*Three class hours per week. Prerequisite: Bus. 83a and 84, or equivalent.*

Specialized techniques required to promote an effective sales record. Coordinates the theoretical background required for State examinations into the area of property merchandising.

**112 (R.E. 140) ADV. LEGAL ASPECTS OF REAL ESTATE (3)**

*Three class hours per week. Prerequisite: Bus. 87, or equivalent.*

An in-depth study of contracts, security transactions, and current developments in law. Course materials will be edited selections of California appellate court decisions. This course is for the serious student who will devote the required time of approximately six hours of study each week. (Meets the State requirements for the broker's examination.)

**113 (R.E. 160) ADV. REAL ESTATE FINANCE (3)**

*Three class hours per week. Prerequisite: Bus. 88, or equivalent.*

Financing of commercial, industrial, and special-purpose properties. Financing mathematics, financial analysis, construction financing, feasibility studies, creative financing, and government participation through social-action programs. (Meets the State requirements for the broker's examination.)

**114 (R.E. 250) REAL ESTATE OFFICE ADMINISTRATION (3)**

*Three class hours per week. Prerequisite: Bus. 83a or 84, 85, 87, 88 and 134; or equivalent.*

An introduction to management; research, personnel, and market management decisions; transition from sales associate to manager; personnel training, counseling, and compensa-

tion; future trends in the industry and their implications for management. (Meets the State requirements for the broker's examination.)

**123 (BUS 380) PUBLIC RELATIONS (3)**

*Three class hours per week.*

Role of public relations in business and industry. The fundamental principles, procedures and tools used in public relations.

**131 (R.E. 200) REAL ESTATE ECONOMICS (3)**

*Three class hours per week. Prerequisites: Bus. 83a or 84, 85, 87, 88 and 134; or equivalent.*

Study of the economic aspects of real estate designed to provide a grasp of the dynamic economic conditions and related factors underlying the real estate business. (Meets the State requirements for the broker's examination.)

**134 (R.E. 170) REAL ESTATE APPRAISAL (BASIC) (3)**

*Three class hours per week. Prerequisite: Bus. 83a and 84, or equivalent.*

Basic real estate appraisal which considers the analysis of residential and commercial properties. Techniques for determination of loan, market and insurance values. (Meets the State requirements for the broker's examination.)

**135 (R.E. 180) REAL ESTATE APPRAISAL (URBAN) (3)**

*Three class hours per week. Prerequisite: Bus. 134, or equivalent.*

Advanced real estate appraisal of multi-family dwellings, apartment houses, commercial and special purpose property. (Meets the State requirements for the broker's examination.)

**136 (R.E. 190) REAL ESTATE APPRAISAL (RURAL) (3)**

*Three class hours per week. Prerequisite: Bus. 134 or 135, or equivalent.*

Advanced course in real estate appraisal of rural properties, covering three types: row crop, orchard, and livestock properties. (Meets the State requirements for the broker's examination.)

**138 (R.E. 210) REAL ESTATE EXCHANGES AND TAXATION (3)**

*Three class hours per week. Prerequisite: Bus. 83a or 84, 85, 87, 88 and 134; or equivalent.*

Advanced course for real estate brokers with experience in residential and commercial transactions. Primary emphasis on developing and analyzing exchange transaction, practical and

technical aspects of completion, the correlation of exchanges and tax matters. (Meets the State requirements for the broker's examination.)

**139 (R.E. 220) COMMERCIAL AND INVESTMENT PROPERTY (3)**

*Three class hours per week. Prerequisites: Bus. 83a or 84, 85, 87, 88 and 134; or equivalent.*

For licensed real estate brokers and salesmen, financing officials, and investors. Emphasizes the process of selecting various properties for investment, including analyzing income, operating expenses and income tax implications. (Meets the State requirements for the broker's examination.)

**140 (R.E. 230) REAL ESTATE MATHEMATICS (3)**

*Three class hours per week.*

Review of the fundamentals of mathematics as they apply to real estate practice, with problems in the area of amortization, appraising, broker's trust fund accounts, interest calculations and capitalization techniques.

**141 (R.E. 240) REAL ESTATE PROPERTY MANAGEMENT (3)**

*Three class hours per week. Prerequisite: Bus. 85, 87 and 88, or license equivalent.*

Survey course on the basic elements of investment property management. Topics include cash flow projection and valuation, merchandising, maintenance, and evictions. Emphasis on apartment property.

**142 (R.E. 260) REAL ESTATE INTERNSHIP (4)**

*Two lecture hours and ten laboratory hours per week. Prerequisites: Business 83a and 84 or equivalent. Business 85 may be taken concurrently.*

Supervised work experience and seminar. A practical application of skills and understandings learned in the academic classroom as applied to areas of specialization to be selected by the student. Intended to assist the student enrolled in the Work Experience Education program.

**145a (R.E. 310) TITLE EXAMINING PROCEDURES (BASIC) (3)**

*Three class hours per week.*

Compiling and interpreting data from various official sources leading to the production of evidence of ownership of real estate.

**145b (R.E. 280) ESCROW PROCEDURES (BASIC) (3)**

*Three class hours per week.*

A basic course in the methods and techniques of escrow procedure for various types of business transactions with



emphasis on real estate. (Meets the State requirements for the broker's examination.)

**145c (R.E. 320) TITLE EXAMINING PROCEDURES (3)**

*Three class hours per week. Prerequisite: Bus. 145 or equivalent.*

Comprehensive study of map reading and easements. A student of abandonments, including vesting and effects. Procedure for examining court proceedings relating to divorce, probate, foreclosures, etc. Detailed studies of property problems.

**145d (R.E. 290) ESCROW PRACTICES (INTERMEDIATE) (3)**

*Three class hours per week. Prerequisite: Bus. 145b or equivalent.*

An advanced course covering more unusual and different types of escrow and evaluating possible solutions. (Meets the State requirement for the broker's examination.)

**145e (R.E. 300) ESCROW PROBLEMS (ADVANCED) (3)**

*Three class hours per week. Prerequisite: Bus. 245d or equivalent.*

Further study of more unusual and difficult types of escrows. Actual case problems are presented and discussed. Conflicts and disputes in escrow are studied. (Meets the State requirements for broker's examination.)

## Business Administration

Students planning to transfer to a university should complete Math. 19 or 20 or have two years of high school Algebra.

**1a-1b (ACTG 110-111) PRINCIPLES OF ACCOUNTING (4-4)**

*Five class hours per week. Prerequisite: 1a—Sophomore standing recommended; 1b—Bus. Adm. 1a or equivalent, with grade of C or better.*

**1a**—Records, accounts and statements of proprietorship enterprises. Debit and credit theory and generally accepted accounting principles and concepts. **1b**—Applications of theory, concepts and principles to partnerships and corporations. Introduction to departmental, cost and manufacturing accounting, budgeting, analysis and management decisions.

**18a (BUAD 100) BUSINESS LAW (3)**

*Three class hours per week.*

Introduction to law applicable to business, including sources, agencies and procedures for enforcement. Emphasis on nature and function of law through case study analysis in fields of contracts, sales, and consumer protection.

**18b (BUAD 101) ADVANCED BUSINESS LAW (3)**

*Three class hours per week. Prerequisite: Bus. Adm. 18a.*

Continuation of 18a with business applications of law of partnerships, corporations, real property, mortgages and security transactions, trusts, wills, bankruptcy and commercial paper.

**18c (BUAD 102) GOVERNMENTAL REGULATORY POWER (3)**

*Three lecture hours per week. Prerequisite: Enrollment in or completion of one college English course.*

Legal environment of business. Evolution, trend and implications of government regulation of business and the economy. Discussion of sources and constitutional limitations of power within the government, together with specific regulatory powers and their administration.

**20 (ACTG 160) COMPUTER APPLICATIONS IN ACCOUNTING (3-5)**

*Three lecture hours and two lab hours per week. Prerequisites: Concurrent enrollment in or completion of Bus. Admin. 1a; completion of one year of high school algebra, or Math. 11.*

Study of business usage of computers; concepts and components of computers; impact of computers upon business organization. Use of source language(s) in writing, running and debugging programs; problems of accounting and management science.

**48 (BUAD 580) SELECTED TOPICS IN BUSINESS ADMINISTRATION (1-3)**

*Hours by arrangement.*

Selected topics in Business Administration not covered by regular catalog offerings. Course content and unit credit to be determined by the Business Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

**49 (BUAD 590) SPECIAL PROJECTS (1-2)**

*Hours by arrangement. Prerequisite: 3.0 GPA in subject field.*

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after

ADMISSIONS AND REGISTRATION  
 COLLEGE OF SAN MATEO  
 1700 W. HILLSDALE BLVD.  
 SAN MATEO, CALIFORNIA 94402

178-179

successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

*enrollment in trigonometry acceptable*); high school physics recommended. 11b – Chem. 11a with grade C or better.

**11a** — Mole concept and stoichiometry, solutions, gas laws, phase changes, thermo-chemistry, and related calculations. Extensive coverage of atomic theory, intermolecular and intramolecular bonding, with emphasis on applications to materials science. (Extra supplies may be required.) **11b** — Detailed treatment of thermodynamics, equilibrium, electro-chemistry, kinetics, chemistry of complexes and introduction to nuclear chemistry. (Extra supplies may be required.)

## Chemistry

### 1a-1b GENERAL CHEMISTRY (5-5)

Three lecture and six lab hours per week. Prerequisites: 1a – Chem. 51 or high school Chemistry with grade C-plus and two years of high school Mathematics; high school Physics recommended; 1b – Chem. 1a with grade C or better. Intended for students majoring in science fields and chemical engineering.

**1a** — Basic principles of atomic and molecular structure and bonding. Chemical reactions and equations, solutions, gas laws, equilibrium; stoichiometry and related calculations. (Extra supplies may be required.) **1b** — Descriptive chemistry of the elements and qualitative analysis. Introduction to nuclear chemistry and detailed treatment of electro-chemistry, equilibrium and kinetics. (Extra supplies may be required.)

### 5 QUANTITATIVE ANALYSIS (4)

Two lecture and six lab hours per week. Prerequisite: Chem. 1b with grade C or better.

Theory, calculations and practice of common analytical procedures. Includes gravimetric, volumetric methods; also colorimetric, potentiometric and other instrumental procedures. (Extra supplies may be required.)

### 7 INTRODUCTION TO PHYSICAL CHEMISTRY (4)

Three lecture and three lab hours per week. Prerequisites: Chem. 1a-1b, Chem. 5.

Properties of matter, solutions, equilibrium, hydrogen ion concentration, thermochemistry and reaction velocity. (Extra supplies may be required.)

### 10 SURVEY OF CHEMISTRY (3)

Three lecture hours per week. (Not open to students who have had or are taking Chem. 1a.)

General survey of the more important concepts and applications of Chemistry for non-science majors.

### 11a-11b GENERAL CHEMISTRY FOR ENGINEERING (4-4)

Three lecture hours and three lab hours per week. Prerequisites: Chem. 51 or high school chemistry with grade C and high school mathematics through trigonometry (concurrent

### 12a ORGANIC CHEMISTRY (3)

Three lecture hours per week. Prerequisite: Chem. 1a with grade C or better.

Basic concepts of structure and reactivity. Reactions of major functional groups. Designed to be the first semester of a one-year organic course or a one-semester overview.

### 12aL ORGANIC CHEMISTRY LAB (2)

One lab/lecture and five lab hours per week. Prerequisite: Completion of or concurrent enrollment in Chem. 12a.

Principles and practice of laboratory techniques, including methods of separation, purification, synthesis, kinetics, and identification of unknowns. Theory and practice of instrumental methods. (Extra supplies may be required.)

### 12b ORGANIC CHEMISTRY (5)

Three lecture hours and one lab/lecture, plus five lab hours per week. Prerequisites: Chem. 12 and 12aL with grades of C or better.

Mechanisms and uses of more complex syntheses, condensation reactions, and instrumental techniques. Includes more exotic classes of compounds than those in Chem. 12a. (Extra supplies may be required.)

### 21 CHEMISTRY OF FOOD AND FOOD ADDITIVES (1)

Three lecture hours per week for six weeks. Prerequisite: A course in chemistry.

General survey of major food components from the standpoint of their chemical structures. The nature of food additives and their postulated metabolic impact. Chemical nature of carbohydrates, proteins, fats and vitamins as found in various foods and as utilized by the body.

### 22 CHEMISTRY OF COSMETICS (1)

Three lecture hours per week for six weeks. Prerequisite: A course in chemistry.

Chemical composition of major types of cosmetics, deodorants, hair dressing. Effect of active ingredients on the substrate. Structure of components of major cosmetic categories and their relationship to the desired function.

1978-1979

**23 CHEMISTRY OF GARDENING (1)**

Three lecture hours per week for six weeks. Prerequisite: A course in chemistry.

Chemical composition of fertilizers, pesticides, and herbicides. Mode of action of critical ingredients; potential side effects. Structures of the active components of commercial, agricultural and gardening aids, and the mechanism of their action.

**24 CHEMISTRY OF PHOTOGRAPHY (1)**

Three lecture hours per week for six weeks. Prerequisite: A course in chemistry.

Chemical description of black and white and color film construction. Reactions occurring during image formation and processing.

**25 CHEMISTRY OF DRUGS & PHARMACEUTICALS (1)**

Three lecture hours per week for six weeks. Prerequisite: A course in chemistry.

The structure and mode of action of selected drugs and pharmaceuticals.

**26 CHEMISTRY OF MOTOR FUELS (1)**

Three lecture hours per week for six weeks. Prerequisite: A course in chemistry.

A description of the manufacture and performance of motor fuels as related to the chemistry of the components.

**27 CHEMISTRY OF POLLUTION AND THE ENVIRONMENT (1)**

Three lecture hours per week. Prerequisite: A course in chemistry.

Chemical nature and origin of pollutants in air and water. Problems of solid waste disposal; elements and compounds found as true contaminants in foods. Chemical problems associated with desmogging internal combustion engines and recycling of solid wastes.

**30a-30b BASIC CHEMISTRY (4-4)**

Three lecture and three lab hours per week. Prerequisites: 30a-high school Algebra; 30b - 30a with grade C or better.

**30a** — An introduction to chemistry for the applied sciences, beginning with scientific measurement and the metric system, followed by chemical bonding, solution chemistry, acids and bases, redox reactions, and general aspects of organic chemistry. **30b** — Completes the sequence, concentrating on organic and biochemistry with special emphasis on the chemistry of carbohydrates, lipids, proteins, vitamins and their respective metabolism.

**48 SELECTED TOPICS IN CHEMISTRY (1-3)**

Hours by arrangement.

Selected topics in chemistry not covered by regular catalog offerings. Course content and unit credit to be determined by the Math/Science Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class. (Extra supplies may be required.)

**49 SPECIAL PROJECTS (1-2)**

Hours by arrangement. Prerequisite: 3.0 GPA in subject field.

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally receive credit for only one Special Project per semester.)

**51 PREPARATION FOR CHEMISTRY 1a (3)**

Six lecture-lab hours per week. Prerequisite: High school Algebra.

Chemical nomenclature and formula writing, and mathematical review, including logarithms and exercises in calculations relating to chemistry. (Provides preparation for students who do not have other prerequisites for Chem. 1a.) (Extra supplies may be required.)

## Community Education Programs

The Community Education Program of the College of San Mateo offers a wide variety of lectures, workshops, forums, performances and non-credit short courses. For a complete listing of these activities, call the Community Education Office, 574-6445. A brochure of the semester's activities will be mailed to you upon request.

## Consumer Arts and Sciences

**1 FOOD SELECTION AND PREPARATION (3)**

Two lecture and three lab hours per week.

A study of scientific principles of selection, storage and preparation of food. Presentation and economy are emphasized.

**2 FOOD AND MEAL MANAGEMENT (3)**  
**(Formerly Meal Management and Foreign Foods)**

*Two lecture and three lab hours per week. Prerequisite: Consumer Arts and Sciences 1.*

Food buying, meal preparation and service. Emphasis on kitchen equipment and organization, quick meals, economical meals and foreign cookery.

**3 FOODS FOR ONE OR TWO (2)**  
**(Credit/No Credit)**

*One lecture and three lab hours per week.*

Selection of foods to fit the budget of time, equipment, and money. Designed to aid the individual to meet his or her nutritional needs.

**5 TWENTIETH CENTURY CAREERS (1)**

*One lecture hour per week.*

Introduction to the range of subject matter to be selected in two- and four-year programs in Consumer Arts and Sciences curriculum.

**6 SLIM GOURMET (2)**

*Two lecture hours per week.*

A nutritional survey of the problem of weight control with emphasis on energy metabolism, causes of obesity, treatment for obesity, and critique of fad diets and aids. Also a study of necessary modifications in normal diet to restore and maintain ideal weight.

**9 NUTRITION (3)**

*Three lecture hours per week.*

Basic concepts of nutrition and their relationship to health of people of all ages, with application to the selection of foods to meet nutritional needs of the individual. (Identical to Health Science 9.)

**15 FASHION AND THE CONSUMER (3)**

*Three lecture hours per week.*

A consideration of the apparel needs of various groups, and of the many forces (economic, sociological; psychological and technological) which influence the consumer and the fashion market.

**17 FASHION COORDINATING AND DISPLAY (3)**

*Two lecture and three lab hours per week. Prerequisite: Consumer Arts and Sciences 16 or concurrent enrollment.*

Study of the elements of fashion which make for success in fashion, merchandising. Store windows, interior display, sales promotion activities and techniques in displaying fashion. (Identical to Business 17.)

**18 FASHION MERCHANDISING (3)**  
**(Formerly CA&S 16)**

*Three lecture hours per week.*

Structure of ready-to-wear apparel industry, including the functions and policies of the various types of retail stores as they relate to the promotion of fashion merchandising; consideration of the various factors which affect the merchandising of fashion apparel. (Identical to Business 18.)

**20 FASHION CONSTRUCTION (3)**

*Two lecture and three lab hours per week.*

Selection and alteration of patterns for individual figure problems; fabric preparation and care properties, with emphasis on construction techniques for fabrics found in yardage stores.

**21 TAILORING (3)**  
**(Credit/No Credit)**

*Two lecture and three lab hours per week. Prerequisite: Consumers Arts and Sciences 20 or equivalent.*

The use of custom details, couturier and tailoring techniques in construction of high quality clothing. Consideration also given to organization and speed techniques.

**22 TEXTILES (3)**

*Three lecture hours per week.*

Study of natural and chemical fibers; yarns and fabric construction and finishes. Care, cost and labeling as related to consumer use.

**24 FASHION IMAGE (2)**

*Two lecture hours per week.*

Analysis of figure types and problems, coordination of fashionable styles, colors, textures and accessories; individualized assistance for developing a creative wardrobe on a budget.

**26 FASHION DESIGN (3)**  
**(Formerly Fashion Design and Construction)**

*Two lecture and three lab hours per week. Prerequisite: Consumer Arts & Sciences 20, 21, or equivalent.*

The construction and use of flat pattern as a method of creating a design for the individual with consideration to fabric performance.

**40 INTERIOR FURNISHINGS (3)**

*Two lecture and three lab hours per week.*

Selection of furniture, wall treatments, floor coverings and materials from an artistic and practical standpoint. Demonstration techniques include construction of draperies, bedspreads and slip covers.

**45 CONSUMER ISSUES AND BUYING PROBLEMS (3)**

*Three lecture hours per week.*

Study of problems facing the consumer; relationship of quality and cost to food, clothing, housing; legislation and agencies protecting the consumer. (Identical to Bus./Econ. 45.)

**46 DEMONSTRATION TECHNIQUES (2)**

*Two lecture hours per week.*

Development of techniques for demonstrating fabrics, equipment, clothing, foods and other subjects of promotional and educational use.

**47 COOPERATIVE EDUCATION (1-4)  
(Credit/No Credit)**

Work experience in a field related to a career goal, supplemented by individual counseling from an instructor-coordinator. (See Page 130.)

**48 SELECTED TOPICS IN CONSUMER ARTS AND SCIENCES (1-3)**

*Hours by arrangement.*

Selected topics in Consumer Arts and Sciences not covered by regular catalog offerings. Course content and unit credit to be determined by the Fine Arts Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

**49 SPECIAL PROJECTS (1-2)**

*Hours by arrangement. Prerequisite: 3.0 GPA in subject field.*

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

**52 GOURMET FOODS (2)**

*Two class hours per week. (Not recommended for Consumer Arts and Sciences majors.)*

Planning, selection and preparation of foods for meals for optimum health. Designed especially for those who wish to serve gourmet, nutritional meals.

**55 HOME DECORATION (2)**

*Two lecture hours per week.*

An appreciation and application of the elements that contribute to the art of decorating the home. Provides a knowledge of the relevant arts, crafts and trades and how they are utilized.

**65 CLOTHING CONSTRUCTION (1)**

*Three lecture-lab hours per week.*

Color analysis, design, fabric and pattern selection; basic construction techniques and commercial patterns used to develop an individual project.

**66 CLOTHING CONSTRUCTION (1)**

*Three lecture-lab hours per week. Prerequisite: Consumer Arts and Sciences 65 or equivalent.*

Tailoring and custom techniques including pattern alteration and fitting for the individual.

**67 FITTING & ALTERATIONS (1)**

*Three lecture-lab hours per week.*

Detailed alteration techniques for individualized figure problems to insure perfect fit.

**80 MANAGEMENT SYSTEMS FOR INTERIOR DESIGNS (3)**

See Art 80.

**81 BASIC CONCEPTS FOR INTERIOR DESIGN (3)**

See Art 81.

**82 SPACE PLANNING (3)**

See Art 82.

**83 GRAPHICS FOR INTERIOR DESIGN (3)**

See Art 83.

**84 COLOR APPLIED TO THE INTERIOR DESIGN (3)**

See Art 83.

**85a-85b HISTORY AND FURNITURE AND DECORATION (3-3)**

See Art 85a-85b.

**87 MATERIALS AND APPLICATION (3)**

See Art 87.

**88 INTERIOR DESIGN WORKSHOP (3)**

See Art 88.



**89 INTERIOR DESIGN PORTFOLIO AND PRESENTATION (1)**

See Art 89.

tives. May be repeated for credit up to a grand total of 16 units. Enrollment in 8 units of credit including Cooperative Education is mandatory.

**Alternate Semester (1-8)**

Students in the alternate semester program may earn up to 8 units of co-op credit per semester. May be repeated for credit up to a grand total of 16 units.

## Cooperative Education

**1 and 2 GENERAL CAREER COOPERATIVE WORK EXPERIENCE (1-3) (Credit/No Credit)**

*One unit of credit for each five hours of work averaged per week per semester with a maximum of 3 units per semester. Enrollment in 8 units of credit including Cooperative Education is mandatory. Coordinating class learning activities averaging one hour per week are required. Scheduled seminars, individual conferences, and individualized instruction are provided to meet the requirement.*

Development of desirable employment habits, attitudes, and career awareness under the direction of a college coordinator. Each student must establish measurable learning objectives appropriate for his or her job. Designed for the student who does not have a specific occupational goal but desires experience on a job. Students with established majors and career goals should enroll in Cooperative Education 47.

There are two basic programs:

The Parallel Program operates concurrently with the daily studies. Through a program of work and study, the relationship between theory and practical application is established.

The New Careers Plan provides students working full time a chance to relate theory and on-going work experience.

Further information is available at the Cooperative Education Office.

**For Veterans Only:**

The Veterans Administration does not approve **Cooperative Education 1 and 2** for educational benefits.

**47 CAREER COOPERATIVE WORK EXPERIENCE EDUCATION (1-4) ALTERNATE SEMESTER (1-8) (Credit/No Credit)**

*Available in each major field of study.*

**Career Cooperative Work Experience Education (1-4)**

One unit of credit for each five hours of work averaged per week per semester, with a maximum of 4 units per semester, with development of appropriate measurable learning objec-

**Transferability**

The University of California will accept Cooperative Education in certain disciplines. Check with the Cooperative Education Department for current information on transferring co-op credit to the California State University and College system.

Work experience in a field related to a career goal and major, supplemented by individual counseling from an instructor-coordinator. There are three basic programs: (1) parallel plan part-time work; (2) alternate semester, alternating work and school each semester; (3) full-time employment, part-time college.

Related instruction information is presented within classes in the major field of study. Units earned in such Cooperative Education courses are not applicable toward unit requirements in the major. In addition, certain departments require scheduled seminars and/or individualized instruction. For more information contact the Cooperative Education office, 574-6171.

**For Veterans Only:**

The parallel plan qualifies for "institutional course" pay rates; the alternate plan qualifies for "cooperative course" pay rates, as designed by the Veterans Administration. Explanation of these rates is available through the Veterans Affairs Office on campus, 574-6193.

The Veterans Administration requires students in the parallel plan program to attend a regularly scheduled weekly meeting.

## Cosmetology

The courses described below are open only to those students accepted in the Cosmetology Program. A grade of C or better is necessary for progression in sequence. Upon completion of the program, the candidate receives a Certificate in Cosmetology and is eligible to write the California Board of Cosmetology examination.

**47 COOPERATIVE EDUCATION (1-4) (Credit/No Credit)**

Work experience in a field related to a career goal, supplemented by individual counseling from an instructor-coordinator. (See Page 130.)

#### 48 SELECTED TOPICS IN COSMETOLOGY (1-3)

*Hours by arrangement.*

Selected topics in Cosmetology not covered by regular catalog offerings. Course content and unit credit to be determined by the Cosmetology Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

#### 49 SPECIAL PROJECTS (1-2)

*Hours by arrangement. Prerequisite: 3.0 GPA in subject field.*

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

#### 50 FUNDAMENTALS OF COSMETOLOGY (Variable to 18) (Formerly Cosmetology)

*Forty hours per week. Ten lecture hours and 30 lab hours per week for maximum of 18 units, fewer hours by arrangement for fewer units. Prerequisite: Completion of the twelfth grade recommended. Tenth grade completion or equivalent required by California Board of Cosmetology. Admission to and registration in the Cosmetology program.*

All subjects required for licensing as a Cosmetologist by the California State Board of Cosmetology. (May be repeated for a maximum of 16 units.)

#### 51 ADVANCED COSMETOLOGY (Variable to 18) (Formerly Cosmetology)

*Forty hours per week. Ten lecture hours and 30 lab hours per week for maximum of 18 units, fewer hours by arrangement for fewer units. Prerequisite: A minimum of 10 units with a grade C or better in Cosmetology 50.*

Continuation of Cosmetology 50. (May be repeated for a maximum of 30 units.)

#### 52 COSMETOLOGY (Brush-up) (Variable to 10 units)

*Five lecture hours and 27 lab hours per week. Prerequisite: Cosmetology license, or Cosmetology 51 with a grade C or better.*

For supplemental training requirements or out-of-state requirements. Course requirements must be met satisfactorily prior to state examination. (May be repeated for credit.)

#### 53 MANICURIST (Variable to 10)

*Nine lecture hours and 18½ lab hours per week. Prerequisite: Enrollment in Cosmetology curriculum.*

Training in theory and practice in the art of manicuring and pedicuring in preparation for a licensure by the California State Board of Cosmetology, in that field only. (Total of 350 hours training.)

#### 90 ADVANCED WORKSHOP (1)

**Fall Semester—90a—two lecture, three lab hours per week for nine weeks. (One session offered.) Prerequisite: California Cosmetologist License or completion of Cosmetology 50 with grade C or better. Spring Semester—90b—three lecture/demonstration hours per week for eight weeks. (Two 8-week sessions offered.) Prerequisite: See 90a.**

Latest National Hair Fashion releases for Spring and Fall. Current techniques in hair shaping, wet and thermal styling and related salon practices.

#### 91 INSTRUCTOR TRAINING (Variable to 17)

*Nine lecture and 28½ lab hours per week for a total of 750 hours. Prerequisite: Valid California Cosmetologist license; or Cosmetology 51 with grade C or better.*

A preparatory course of teaching techniques designed to qualify the student for the California State Board of Cosmetology Instructor examination. Requires the student to complete a 600-hour instructor training certificate program. Up to 150 hours may be added to the training, if necessary, to correct deficiencies.

## Dance

*The classes listed below are identical to Physical Education classes with the same title. Students may enroll in either Dance or Physical Education classes, but not both.*

#### 5 FOLK/SQUARE DANCE (1)

*Two lab hours per week.*

Fundamental and basic steps, techniques for leading and following, etiquette, and development of rhythm. Square dances and a variety of folk dances.

#### 6 MOVEMENT AND BODY AWARENESS (1)

*Two lab hours per week.*

A course designed to build a concept of movement for modern daily living; to become aware and perceive the body as an instrument of self-image on purposive movements; and to recognize individual capabilities and limitations.

**8 ELEMENTARY BALLET AND MODERN DANCE (1)**

Two lab hours per week.

Movement skills, rhythmic structure of dance, qualities of movement, special design and appreciation of dance. Modern ballet and modern dance styles are emphasized in the creation of individual compositions.

**10 DANCE AND MOVEMENT FOR THEATER (2)**

Four lab hours per week.

Movement, body awareness activities for the theater environment. Dance technique, locomotor movements, and various improvisation experiences resulting in choreographic movement studies.

**12a-12b BALLET (1-1)**

Two lab hours per week.

**12a** — Beginning study of ballet techniques and style, barre, center floor and dance variations. Modern ballet works are explored. **12b** — Beginning ballet techniques, concentrating on barre, center floor, and dance variations. Classic ballet works are explored.

**13a-13b CONTEMPORARY MODERN DANCE (1-1)**

Two lab hours per week.

**13a** — Fundamentals of contemporary dance technique, body alignment, and basic locomotive movements. Modern dance styles are studied in relation to the significance of a dancer's training. **13b** — In-depth study of modern dance techniques, body alignment and locomotive movements. Contemporary dance choreographers and their significance to contemporary dance are studied.

**14 JAZZ DANCE (1)**

Two lab hours per week.

Beginning techniques in jazz-stage, jazz movements, fast jazz, jazz rock, and blues, plus various jazz combinations.

**20a-20b DANCE PRODUCTION (1-2)**

Two lab hours per week. Prerequisite: 20a – Dance 8 or 13a-b; 20b–Dance 20a.

**20a** —Choreographic principles of dance composition and stage presentation. Types of dance include primitive, medieval, expressionism, cerebralism, jazz, improvisation, impressionism, formal ballet, modern ballet, Broadway musical, Americana, and folk dances. **20b** — A public stage dance performance, with the creation of new works by students directed toward large groups, trios, duets and solos. Participation in the technical and business aspects of a student production. (Additional hours required for production.)

## Data Processing

**20 (ACTG 160) COMPUTER APPLICATIONS IN ACCOUNTING (3-5)**

See *Business Administration 20*.

**25 FORTRAN PROGRAMMING WITH AN INTRODUCTION TO NUMERICAL AND STATISTICAL METHODS (3)**

See *Mathematics 25*.

**47 (D.P. 597) COOPERATIVE EDUCATION (1-4) (Credit/No Credit)**

Work experience in a field related to a career goal, supplemented by individual counseling from an instructor-coordinator. (See Page 130.)

**48 (D.P. 598) SELECTED TOPICS IN DATA PROCESSING (1-3)**

Hours by arrangement.

Selected topics in Data Processing not covered by regular catalog offerings. Course content and unit credit to be determined by the Business Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

**49 (D.P. 590) SPECIAL PROJECTS (1-2)**

Hours by arrangement. Prerequisite: 3.0 GPA in subject field.

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

**50 (D.P. 110) INTRODUCTION TO DATA PROCESSING (3) (Formerly Computers and Society)**

Three lecture hours per week plus one lab hour per week by arrangement.

Emphasis on a wide variety of computer applications in social, physical, and life sciences, engineering, medicine, aeronautics, business, education, and government, and their implications for the individual and society. Introduction to computer hardware, software, and programming.

**51 (D.P. 120) COMPUTER OPERATIONS (4)**

Three lecture and three lab hours per week.

Student should become proficient in the operation of an IBM

360/30, related input/output devices, and peripheral (non-computer) equipment.

**52 (D.P. 130) OPERATING SYSTEMS CONCEPTS AND JOB CONTROL LANGUAGE (JCL) (4)**

Three lecture and three lab hours per week. Prerequisite: Data Proc. 50 or equivalent.

Emphasis on DOS concepts, with a survey of OS. Students design and test JCL for typical job streams, and control statements for file-to-file utility and sort/merge programs.

**53a (D.P. 150) COBOL PROGRAMMING (4)**

Three lecture hours and three lab hours per week. Prerequisite: Data Proc. 50 or equivalent.

Writing and testing COBOL programs on an IBM-360/30 computer. Emphasis on logic or typical business programs and basic language elements. Included also are debugging techniques, use of reference manuals, program documentation standards, and structured programming concepts.

**53b (D.P. 151) ADVANCED COBOL PROGRAMMING (4)**

Three lecture hours and three lab hours per week. Prerequisite: Data Proc. 53a or equivalent.

Emphasis on processing standard sequential tape and disk files; indexed sequential and random disk files. Experience in writing integrated sets of programs for typical business systems using the team project method.

**54 (D.P. 160) SYSTEM 360 ASSEMBLER LANGUAGE PROGRAMMING (4)**

Three lecture hours and three lab hours per week. Prerequisite: One semester's experience or training in any programming language, or equivalent.

Writing and testing ASSEMBLER programs on an IBM-360/30 computer. Emphasis is on solving business-type problems. Includes effective use of modular programming concepts, writing of complex programs utilizing control breaks, headings, and subroutines, and interpretation of core dumps.

**55 (D.P. 170) REPORT PROGRAM GENERATOR (RPG) PROGRAMMING (4)**

Three lecture hours and three lab hours per week.

Writing and testing RPG programs on an IBM-360/30 computer to process typical business problems involving punched card, printer, magnetic tape, and disk files. Introduction to IBM System 3 hardware and processing techniques.

**56 (D.P. 180) PL/1 PROGRAMMING (4)**

Three lecture hours and three lab hours per week. Prerequisite:

One semester's experience or training in any programming language, or equivalent.

Writing and testing PL/1 programs on an IBM-360/30 computer. The commercial subsets of PL/1 are stressed; scientific subsets are to be covered in less detail. All forms of input/output design are covered.

**97 (D.P. 200) KEY DATA ENTRY (3)**

Day – five class hours per week. Evening – six class hours per week. Prerequisite: Knowledge of typing.

Extensive operating experience on 029 and 129 keypunches, and introduction to key to desk equipment. Multi-level program design; practice exercises involving typical business applications, to prepare a student for entry-level employment.

**106 (D.P. 210) DATA PROCESSING FIELD PROJECTS (2-4)**

Hours by arrangement. Prerequisite: Completion of a course in any programming language, or equivalent.

Directed individual study in field projects arranged between the student and the instructor.

## Dental Assisting (One-Year Program)

**47 COOPERATIVE EDUCATION — HEALTH OCCUPATIONS (1-4) (Credit/No Credit)**

Work experience in a field related to a career goal, supplemented by individual counseling from an instructor-coordinator. (See Page 130.)

**48 SELECTED TOPICS IN DENTAL ASSISTING (1-3)**

Hours by arrangement.

Selected topics in Dental Assisting not covered by regular catalog offering. Course content and unit credit to be determined by the Health and Service Careers Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

**49 SPECIAL PROJECTS (1-2)**

Hours by arrangement. Prerequisite: 3.0 GPA in subject field.

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

The courses described below are open only to those students accepted in the Dental Assisting Program. A grade C or better is necessary for progression in sequence. Upon completion of the program, the candidate receives a Certificate in Dental Assisting and is eligible to write the National Certification Examination and the Registered Dental Assistant examination.

**51a-51b OFFICE PROCEDURES (3-3)**

Two lecture and three lab hours per week. Prerequisites: 51a–none; 51b–D.A. 51a.

**51a** — A study of ethics, jurisprudence, malpractice and psychology. Charting, dental specialties, terminology, appointment control, dental records and history, recall system, filing, telephone and written communications. (Fall only.)

**51b** — Pharmacology studies, prepaid dental care, daily log, banking records, payroll forms, employee records, charges, payment and accounts receivable, monthly statement, collection letters, office manual and machines, supplies and inventory control, and employment procedures. (Spring only.)

**52a-52b DENTAL MATERIALS (3-3)**

Two lecture and 1½ lab hours per week. Prerequisites: 52a – none; 52b – D.A. 52a.

**52a** — Introduction to and use and manipulation of dental materials. Study and manipulation of dental materials used in dental office laboratories. Study of and preparation of dental materials, principles of prosthodontics and restorative materials. (Fall only.) **52b** — Continuation of 52a, with further study in dental casting procedures. Introduction to dental procedures, further restorative materials uses and applications, and impression materials uses and applications. (Spring only.)

**53a-53b DENTAL SCIENCE (2½-2½)  
(Formerly Dental Anatomy and Physiology)**

Two lecture and 1½ lab hours per week. Prerequisites: 52a–none; 53b–D.A. 53a.

**53a** — Basic introduction to the hard and soft tissues of the oral cavity, tooth morphology and the science of dentistry. Study of the anatomy and physiology of the head, neck and pathologic disturbances, with introduction to oral health principals, including nutrition. (Fall only.) **53b** — Further study in the hard and soft tissues of the oral cavity, anatomy of the head and neck. Introduction to the body systems, blood supply of the head and neck, innervation of the teeth and myofunctional disorders. (Spring only.)

**54a-54b CHAIRSIDE PROCEDURES (3-3)**

Two lecture and three lab hours per week. Prerequisites: 54a–none; 54b–D.A. 54a.

**54a** — Beginning clinical application of chairside assisting techniques. Preparation of the patient and operatory area. Basic concepts of instrumentation, dental armamentarium, sterilization techniques, microbiology and dental office emergency procedures. (Fall only.) **54b** — Further study in chairside procedures. Emphasis is placed on the student’s individual development. Introduction to dental specialties, instrumentation and application, introduction to intra-oral functions, DA and RDA level. (Spring only.)

**55a-55b CLINIC (2-1) (Credit/No Credit)**

Seven lab hours per week (for ten weeks for 55b). Prerequisites: 55a – concurrent enrollment in 54a; 55b – DA 55a with a C or better and concurrent enrollment in 54b.

**55a** — Transfer of chairside theory to practical experience at local dental schools and community health centers. (Fall only.) **55b** — Continuation of applying chairside theory to practical experience at local dental schools and community health centers. (Spring only.)

**56a-56b DENTAL RADIOLOGY (3-3)**

One lecture and three lab hours per week, plus three hours by arrangement. Prerequisites: 56a–none; 56–D.A. 56a.

**56a** — Introduction to radiology; history, principles of radiology; biological effects of radiology; radiation protection; films; exposure and processing techniques; mounting and filing of X-rays; radiodontic pitfalls. (Fall only.) **56b** — Continuation of 56a. Designed to provide further depth in the areas of dental radiography. Emphasis is placed on the student’s individual development. Introduction to the concepts of the bi-section and record maintenance; normal structures and anatomical landmarks; film evaluation; intra-oral films; continued practice in exposing X-rays and dark-room procedures. (Spring only.)

## Drafting Technology

Equipment may be required in all Drafting Technology courses.

**14 (100) PRINCIPLES OF TECHNICAL DRAWING (3)**

Two lecture and four lab hours per week.

Basic mechanical drawing with instruction surveying the field of graphic communications; technical sketching, visualization, descriptive geometry, orthographic projection, geometric construction, pictorial drawing methods, sectional views, auxiliary views, developments, dimensioning, fasteners, welding, electro-mechanical, piping, tooling, structural and architectural drafting principles.



**48 (580) SELECTED TOPICS IN DRAFTING TECHNOLOGY (1-3)**

*Hours by arrangement.*

Selected topics in Drafting Technology not covered by regular catalog offerings. Course content and unit credit to be determined by the Technology Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

**63 (400) BASIC TECHNICAL DESIGN (3)**

*Three lecture hours per week. Prerequisites: Tech. 72 and 74, concurrent enrollment in D.T. 62a.*

Application of the materials covered in Tech. 72 and 74 to the solution of design problems. Topics include problems of producibility, value engineering reliability and metrication; numerically-controlled machines and programs.

**49 (590) SPECIAL PROJECTS (1-2)**

*Hours by arrangement. Prerequisite: 3.0 GPA in subject field.*

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

**51a-51b (710-711) APPLIED DRAFTING MATHEMATICS (3-3)**

*Three lecture hours per week. Prerequisite: Concurrent enrollment in D.T. 52a-b.*

One of the required courses for technical drafting students, including review and instruction in basic arithmetic, elementary algebra, plane geometry, logarithms, practical plane trigonometry, and the use of electronic pocket calculators.

**52a-52b (200-201) TECHNICAL DRAFTING (5-5)**

*Five three-hour periods per week. Prerequisites: 52a-Concurrent enrollment in D.T. 51a. 52b - Concurrent enrollment in D.T. 51b; a grade of C or better in D.T. 52a, and completion of D.T. 51a.*

**52a** — Multi-view drawing, lettering, geometric shape description, sections, descriptive geometry, sketching, dimensioning, reproduction processes, charts and graphs. **52b** — Working drawing, threads and fasteners, gears, tolerancing, pictorial projections, intersections, developments and assembly drawings.

**62a-62b (300-301) ADVANCED TECHNICAL DRAFTING (5-5)**

*Five three-hour periods per week. Prerequisite: Grade C or better in D.T. 52a-b.*

**62a** — Cams, assembly drawings, geometric and true positional tolerances, welding, jigs and fixture design and structural drawing. **62b** — Topographic drafting, production illustration, electrical and electronic drafting, pneumatics, hydraulics, piping, and documentation with metric values.

**EVENING CERTIFICATE PROGRAM**

Upon completion of 24 semester units of drafting and related courses in the evening, a student may be awarded a Certificate in Industrial Drafting. For complete details, contact the Technology Division.

**102a-102b (720-721) BASIC TECHNICAL DRAFTING (3-3)**

*Two lecture and four lab hours per week. Prerequisites: 102a-None; 102b - D.T. 102a or D.T. 14.*

**102a** — Sketches, working drawings, shop processes, pictorial projections, intersections, developments, and simplified drafting. **102b** — Continued practice in preparation of working drawings including tolerancing, assembly drawings, and the use of engineering change notices.

**112a-112b (730-731) TECHNICAL DRAFTING (3-3)**

*Two three-hour meetings per week. Prerequisites: D.T. 112a - D.T. 102a or D.T. 14; D.T. 112b - D.T. 102a-b, 112a.*

**112a** — Projections, points, lines, planes, revolutions, intersections, surfaces and sheet metal practices. **112b** — Gears and cams, with emphasis on calculations and terminology. Dimensioning, tolerancing, quality control, assembly and welding drawings.

**122 (740) ELECTRONICS DRAFTING (3)**

*Two lecture and four lab hours per week. Prerequisites: D.T. 14 or equivalent, Electronics 10 or equivalent.*

Techniques of preparing the various types of electronic drawings used in industry.

**130 (750) ELEMENTS OF MACHINE DESIGN (3)**

*Three lecture hours per week. Prerequisite: D.T. 14, or knowledge of drafting fundamentals; Mathematics through Numerical Trigonometry.*

Techniques of selection and computations for machine elements and for design for compound

## Drama

### 1a-1b HISTORY OF THEATRE ARTS (3-3) (Formerly History of Dramatic Arts)

Three lecture hours per week.

**1a** — Classical period to 18th Century. Plays, physical theatres, staging, directing, and their relationship to existent cultural forces. Use of audio-visual resources, and required play attendance. **1b** — 18th Century to the present. Development and changes in dramatic styles and structure. 19th Century, Ibsen, Chekhov, new stage craft, Brechtian style, theatre of the absurd, living theatre.

### 10 INTRODUCTION TO THE THEATRE (3)

Three lecture hours per week.

Course is designed to acquaint the student with the various approaches to a theatre production. Covers nomenclature, duties, responsibilities, traditions, script analysis, approach to a script from the production viewpoint. Lectures and demonstrations covering publicity, music, productions, dance, motion picture and television. Not a performance course.

### 12 STAGE CRAFT (3) (Formerly Stage Production)

Two lecture and three lab hours per week.

The theory and craftsmanship of building, rigging, painting and otherwise preparing theatrical settings and properties. Practical experience through executing the technical work for the college's dramatic presentations. (May be repeated for credit.)

### 13 LIGHTING (3)

Two lecture, four lab hours per week.

Methods of lighting for actual plays and musical productions. Theory and practical experience in designing, hanging and working lights for stage productions. One crew assignment required, for which Drama 16 credit is earned. (May be repeated for credit.)

### 14a THEORY AND PRACTICE OF ACTING (3)

Four class hours per week.

Introduction to the principles and techniques of acting: pantomime, improvisation, movement, vocal projection, characterization and procedures of rehearsal and performance. Rehearsal scenes are presented on stage.

### 14b-14c-14d ADVANCED ACTING AND FUNDAMENTALS OF DIRECTING (3-3-3)

Four class hours per week. Prerequisite: Drama 14a or equivalent course.

Review of basics of acting, advanced theories and techniques, style, Stanislavsky method, character analysis, preparation for long scenes.

### 15 PLAY PRODUCTION (½-2 per play)

Prerequisite: Standard tryout.

Participation in the presentation of any drama department production as an actor or assistant to the director. Each class will be a specific cast for a particular production. (May be repeated for credit.)

### 16 PRODUCTION CREW (½-3 per play) (Formerly Production Shop)

The backstage crew for drama department productions. Scenery movement, props, lighting, sound for mounting a production. Supervised by technical faculty. (May be repeated for credit.)

### 17 COSTUME WORKSHOP (½-2 per play) (Formerly Costume Fashion Workshop)

Hours by arrangement.

Provides practical experience for fashion and costume students. Design and execution of costumes for a drama department production. (May be repeated for credit.)

### 48 SELECTED TOPICS IN DRAMA (1-3)

Hours by arrangement.

Selected topics in Drama not covered by regular catalog offerings. Course content and unit credit to be determined by the Fine Arts Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

### 49 SPECIAL PROJECTS (1-2)

Hours by arrangement. Prerequisite: 3.0 GPA in subject field.

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Student normally may receive credit for only one Special Project per semester.)

## Early Childhood Education

### 2 INTRODUCTION TO EARLY CHILDHOOD (3)

*Two lecture hours and three lab hours per week.*

Getting to know the young child through observing, recording, and evaluating children's behavior. Active participation in the classroom and experience in working with parents. The three laboratory hours per week will be scheduled in the demonstration schools under the guidance of a master teacher.

### 3 UNDERSTANDING THE CHILD IN THE FAMILY AND COMMUNITY (3)

*Two lecture hours and three lab hours per week. Prerequisite: ECED 2.*

The class will focus on the child's identity, developmental aspects of behavior, cultural and ethnic differences, contemporary family styles, the child within his/her family and the institutions in the community that regulate and provide services to the child and family. The three laboratory hours per week will be scheduled in the demonstration schools under the guidance of a master teacher.

### 4 NURSERY SCHOOL PRINCIPLES AND PRACTICES (3)

*Two lecture hours and three lab hours per week. Prerequisite: ECED 2.*

The student will study the history of European and U.S. educational philosophies as they relate to local and national ECED programs. The student will explore his/her own philosophy and goals of early childhood education. The laboratory experience will require assisting in a variety of ECED settings, scheduled and supervised by the instructor.

### 5 CURRICULUM FOR EARLY CHILDHOOD EDUCATION (3)

*Two lecture hours and three hours per week. Prerequisite: ECED 2, ECED 4.*

The course focuses on the theoretical approach to curriculum planning as it relates to the daily and yearly program. Planning creative activities and active participation in all aspects of a nursery school program is required in the demonstration nursery school under the direct supervision of an experienced teacher.

### 6 ADMINISTRATION OF NURSERY SCHOOLS (3)

*Three class hours per week.*

Provides a general understanding of the principles involved in

administering and supervising an early childhood educational program. Emphasis is placed on relationships with parents, governmental agencies, community leaders, staff development, curriculum planning, licensing and school finance.

### 7 CREATIVE EXPERIENCES FOR YOUNG CHILDREN (3)

*Three class hours per week.*

Directed toward the development of greater sensory awareness of the student through individual participation. By self analysis of experiences, perceptions, and reactions, the creative process will be explored. Field trips and workshops will be interspersed with seminars to foster empathy for the child's feelings and creativity.

### 47 COOPERATIVE EDUCATION (1-4) (Credit/No Credit)

Work experience in a field related to a career goal, supplemented by individual counseling from an instructor-coordinator. (See Page 130.)

### 48 SELECTED TOPICS IN EARLY CHILDHOOD EDUCATION (1-3)

*Hours by arrangement. Selected topics in Early Childhood Education not covered by regular catalog offerings.*

Course content and unit credit to be determined by the Health and Service Careers Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

### 49 SPECIAL PROJECTS (1-2)

*Hours by arrangement. Prerequisite: 3.0 GPA in subject field.*

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally receive credit for only one Special Project per semester.)

### 60 EARLY CHILD DEVELOPMENT (3) (Credit/No Credit)

*Two lecture hours and 3 lab hours per week.*

Students study theory of developing and implementing an appropriate curriculum for young children. The course will provide opportunities to learn about child rearing practices and family life in contemporary society.

## Economics

### 1a (100) PRINCIPLES OF ECONOMICS — MACRO (3)

Three lecture-discussion hours per week.

Capitalism and other economic systems; the role of resources, machines and workers in production; the banking system and the use of money in guiding economic activity; trends of national income and factors in its determination; policies for stabilization and growth in advanced and underdeveloped nations.

### 1b (101) PRINCIPLES OF ECONOMICS — MICRO (3)

Three lecture-discussion hours per week.

Supply and demand, the price determination in a market economy; the business firm's costs, revenues and price policies under conditions of competition and monopoly; the determination of wages, rent, interest and profits; international trade and finance; comparative economic systems of other nations.

### 2 (400) ELEMENTARY STATISTICS (4)

Four class hours per week. Prerequisite: Math 13.

Descriptive statistics, graphic presentation, measures of central tendency, dispersion, index numbers, time series, seasonal indexes. Introduction to statistical inference, hypotheses testing, type I and type II error, and Chi-square goodness of fit test. (Identical to Bus. 2.)

### 10 (500) SURVEY OF ECONOMIC PROBLEMS (3)

Three class hours per week.

A non-theoretical consideration of the major economic problems which confront the citizen today. This course is recommended for the general student interest in aspects of consumer economics and current economic problems, and for business and economics majors who desire an introduction to the theory courses (Economics 1a and 1b.)

### 11 (160) ECONOMIC HISTORY OF THE UNITED STATES (3)

Three class hours per week.

Origin and development of the American economy from colonial times to the present. Includes industrial growth, land and resource use, transportation, money and banking, trade patterns, the rise of organized labor, the economic role of government. (Identical to History 11; with History 17a or 17b, fulfills American Institutions requirement.)

### 12 (170) ECONOMIC HISTORY OF EUROPE (3)

Three class hours per week.

Roots of modern economic society traced to European origins. Includes mercantilism, the market system and modern industrialism. Attention is also given to the 20th Century. (Identical to History 12.)

### 15 (230) PUBLIC FINANCE AND TAXATION (3)

Three class hours per week. Prerequisite: Econ. 1a and 1b.

Principal sources of government revenues and the expenditures of these revenues. Concerned with such economic problems as the shifting incidence of taxation and the relative of fiscal problems to the business cycle and to political situations.

### 20a,b,c (560, 561, 562) CURRENT ECONOMIC TOPICS (1-1-1)

Three hours per week for 5½ weeks.

Each module deals with an economic topic of current concern to citizens and assumes no previous knowledge of economics. Each module may be taken independently or in combination with the others. Topics may include: Inflation, Energy; Population; Gold and Dollar Crisis; Socialism; and Women and Employment.

### 45 CONSUMER ISSUES AND BUYING PROBLEMS (3)

See Consumer Arts and Sciences 45.

### 48 (580) SELECTED TOPICS IN ECONOMICS (1-3)

Hours by arrangement.

Selected topics in Economics, not covered by regular catalog offerings. Course content and unit credit to be determined by the Social Science Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

### 49 (590) SPECIAL PROJECTS (1-2)

Hours by arrangement. Prerequisite: 3.0 GPA in subject field.

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

### 51 (800) THE ECONOMICS OF THE AUTOMOBILE (2)

Two class hours per week.

How to minimize the cost of automobile ownership. How an automobile works and what tools and procedures are used to maintain its life and reliability. Practical experience in maintaining and evaluating the used car. (Identical to Automotive Technology 51.) (Extra supplies may be required.)

## Education

### 1 INTRODUCTION (3)

*Three class hours per week.*

Career opportunities in education, the financial and legal aspects of teaching, the organization of the public school systems, teacher education and teacher certification. Emphasis is placed on planning for a career in education.

### 2 THE TEACHER ASSISTANT (1-3)

*Hours by arrangement.*

This course has three major components and each component deals with a specific aspect of the teacher assistant's job. *The Common Component* — This component deals with the modern educational system and the teacher assistant's role in it. *Tutoring* — The methods of tutoring in reading, language arts, math and English as a second language. *New approaches to Discipline* — Behavior modification, reinforcement and new methods developed to help teachers and teacher assistants in the classroom.

### 3 READING IN PUBLIC SCHOOLS (3)

*Three class hours per week.*

Physiological and psychological basis of reading, philosophy of reading instruction, individual and group reading instruction, coordination and acceleration problems in reading, multimedia approach in reading, teacher and teaching assistant variables in reading, facts and fallacies about reading readiness.

### 47 COOPERATIVE EDUCATION (1-4) (Credit/No Credit)

Work experience in a field related to a career goal. The work experience is supplemented by individual counseling from an instructor-coordinator. (See Page 130.)

### 48 SELECTED TOPICS IN EDUCATION (1-3)

*Hours by arrangement.*

Selected topics in Education not covered by regular catalog offerings. Course content and unit credit to be determined by the Health and Service Careers Division in relation to community student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

### 49 SPECIAL PROJECTS (1-2)

*Hours by arrangement. Consent of the instructor and Chairman of the Health and Service Careers Division required.*

Directed individual work in a specific field or topic. Evidence of accomplishment satisfactory to the instructor supervising the project is required.

## Electronics Technology

### 32 (700) CAREER EXPLORATION (1)

*Two lecture hours per week for the first 8 weeks of semester.*

Introduces students to the industrial field of electronics technology and provides guidance for academic planning in preparation for future electronics employment.

### 48 (580) SELECTED TOPICS IN ELECTRONICS TECHNOLOGY (1-3)

*Hours by arrangement.*

Selected topics in Electronics Technology not covered by regular catalog offerings. Course content and unit credit to be determined by the Technology Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

### 49 (590) SPECIAL PROJECTS (1-2)

*Hours by arrangement. Prerequisite: 3.0 GPA in subject field.*

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

### 70 (765) TELEVISION FUNDAMENTALS (4)

*Three lecture hours, three lab hours per week. Prerequisites: Two semesters of electronics or equivalent experience.*

Basic TV systems: modulation techniques and receivers, including CATV systems. Development of skills necessary for employment in electronic communications industries which require knowledge of TV system. (Evening session only.)

### 100 INTRODUCTION TO ELECTRONICS (3) (Formerly E.T. 10)

*Three lecture hours per week. (Not open to Electronics Technology majors.)*

Basic electronics with a descriptive presentation and a non-mathematical approach. The influence of electronics in all phases of business, science and daily life is stressed, with emphasis on electronic systems.



**102 (710) DC AND AC ELECTRONICS FUNDAMENTALS (4)**

Three lecture and three lab hours per week. Prerequisites: E.T. 14 or previous electronics experience.

Theory and practice for advanced study in electronics technology. DC and AC circuit actions of various combinations of resistance, capacitance, and inductance. (Extra supplies may be required.)

**105-106 (770-771) COMMERCIAL LICENSES (3-3)**

Three lecture hours per week. Prerequisite: 105 – E.T. 14 or equivalent 106 – 105 or equivalent.

**105** — The basic material covered in this course will be that outlined by the FCC as a study guide for the examination for the first- and second-class radio-telephone licenses. **106** — Continuation of preparation for license examination.

**110 FUNDAMENTALS OF ELECTRONICS (3)  
(Formerly E.T. 14)**

Two lecture and three lab hours per week.

Basic electronic components and circuits are covered using a non-mathematical approach. Laboratory experiences are provided in the use of basic instruments.

**122 (720) ACTIVE CIRCUITS AND DEVICES (4)**

Three lecture and three lab hours per week. Prerequisite: E.T. 102.

Theory and practice in the use of steady-state circuit action of active devices. Significant characteristics and corresponding circuits of solid state devices—resistors, capacitors, and/or inductors. (Extra supplies may be required.)

**132 (730) APPLIED LINEAR AMPLIFIER ANALYSES (4)**

Three lecture and three lab hours per week. Prerequisite: E.T. 122.

Analyses of circuits: review of single stage transistor amplifiers and frequency response, multi-stage direct-coupled amplifiers, negative feedback and amplifiers, operational amplifiers (adders), multipliers, active filters, equalizer tone controls; and power amplifiers, complementary and quasi-complementary.

**133 (740) APPLIED ELECTRONICS CIRCUIT ANALYSES (4)**

Three lecture and three lab hours per week. Prerequisite: E.T. 132.

Analyses of circuits including power supplier, RF amplifiers, oscillators, non-sine waves and sine waves, FM-AM modulation, and integrated circuit applications. (Extra supplies may be required.)

**134 (750) DIGITAL CIRCUITS FUNDAMENTALS (4)**

Three lecture and three lab hours per week. Prerequisites: E.T. 14 or E.T. 102.

A basic course in theory and application of basic logic gates, TTL and CMOS logic families, Boolean algebra, arithmetic circuits, etc., to test instruments, computers, minicomputers, and microprocessors. (Extra supplies may be required.)

**135 (751) ADVANCED DIGITAL CIRCUITS (4)**

Three lecture and three lab hours per week. Prerequisite: E.T. 134.

Advanced digital computer systems, sub-systems, and input-output interface equipment. The sub-systems to be analyzed include digital voltmeter, memories, digital to analog conversion, processors, and data transmission. (Extra supplies may be required.)

**143 (760) MICROWAVE PRINCIPLES (3)**

Three lecture hours per week. Prerequisites: E.T. 132 or equivalent.

Study of transmission lines, active and passive microwave devices, and their applications that operate in the microwave region.

**200 PASSIVE CIRCUITS AND DEVICES (5)  
(Formerly E.T. 52-52L)**

Three lecture and six lab hours per week. Prerequisite: One year of high school algebra with a grade of C or better.

Study of the circuit action of significant combinations of resistance, capacitance, and inductance. Experiments and procedures parallel the lecture material presented. The use of basic electronic measuring equipment is stressed. (Extra supplies may be required.)

**230 APPLIED ELECTRONIC MATHEMATICS (3)  
(Formerly E.T. 51)**

Three lecture hours per week. Prerequisite: One year of high school algebra with a grade of C or better.

Basic applications of algebra to the solution of problems involving direct-current circuits; elements of trigonometry, logarithms, complex numbers and vector methods as applied to alternating current circuits and high-transmission lines.

**250 ACTIVE ELECTRONIC DEVICES & CIRCUITS (5)  
(Formerly E.T. 62-62L)**

Three lecture hours and six lab hours per week. Prerequisite: E.T. 200 and concurrent enrollment in E.T. 252.

Study of the characteristics of active electronic devices such

as bi-polar and field-effect transistors, thyristors, and vacuum devices. Application of these devices in simple electronic circuits.

**252 INSTRUMENTS AND SYSTEMS MEASUREMENTS (2)**  
(Formerly E.T. 72-72L)

*One lecture hour, three lab hours per week. Prerequisite: E.T. 200 or equivalent qualification, concurrent enrollment in E.T. 250.*

A study of measuring equipment and techniques as applied to electronic devices, linear circuits, audio, and other electronic systems.

**260 BASIC LOGIC PRINCIPLES AND APPLICATIONS (3)**  
(Formerly E.T. 64)

*Two lecture hours, three lab hours per week. Prerequisite: E.T. 110 or equivalent qualification.*

A study of characteristics of digital electronic circuits that utilize such IC devices as gates, flip-flops, and memories.

**280 BASIC FABRICATION (2)**  
(Formerly E.T. 53)

*One lecture hour, three lab hours per week. Prerequisite: Concurrent enrollment in E.T. 250 or equivalent background.*

Basic hand skills required of electronics technicians. Familiarization with fabrication and assembly techniques typical of the electronics industry, with emphasis on quality of workmanship. (Extra supplies required.)

**300 ANALYSIS LINEAR CIRCUITS (4)**  
(Formerly E.T. 72-72L)

*Two lecture hours, six lab hours per week. Prerequisites: E.T. 250 or equivalent qualifications.*

Study of multi-stage linear discrete and IC circuit such as amplifiers. Oscillators and regulators.

**302 MODULATION/DEMODULATION AND SIGNAL PROCESSING SYSTEMS (3)** (Formerly E.T. 71)

*Two lecture hours, three lab hours per week. Prerequisite: E.T. 252 or equivalent qualification.*

Study of the signal processing functions relative to modulation and demodulation of intelligence signals as used in audio and video communications systems.

**310 FUNCTION ANALYSIS AND APPLICATIONS OF DIGITAL SUBSYSTEMS (3)** (Formerly E.T. 73-73L)

*Two lecture hours, three lab hours per week. Prerequisite: E.T. 260 or equivalent qualification.*

A study of the application of basic logic circuits to digital

functions such as counting, encoding/decoding, storing, computing, processing, and controlling.

**330 ADVANCED FABRICATION (2)**  
(Formerly E.T. 53, 63)

*One lecture hour, three lab hours per week. Prerequisite: Successful completion of E.T. 280 or equivalent industrial experience.*

Familiarization with industrial prototyping techniques. To provide instruction in printed circuit layout including artwork, photography, and fabrication. (Extra supplies required.)

**350 ADVANCED CIRCUIT APPLICATIONS (4)**  
(Formerly E.T. 82-82L)

*Two lecture hours, three lab hours per week. Prerequisite: E.T. 300 or equivalent qualifications.*

Study of pulse and switching circuits, active radio-frequency circuits, and advanced IC applications.

**360 PRINCIPLES AND APPLICATIONS OF DIGITAL SYSTEMS (3)** (Formerly E.T. 73-73L)

*Two lecture hours, three lab hours per week. Prerequisite: E.T. 310 or equivalent qualification.*

A study of electronic computing and control systems; the microprocessor, its interfaces and applications.

**362 RF/MICROWAVE TRANSMISSION AND RECEPTION (4)** (Formerly E.T. 83-83L)

*Three lecture hours, three lab hours per week. Prerequisite: E.T. 302 or equivalent qualification.*

Study of radio-frequency/microwave transmission and reception principles and techniques, including transmission lines and antennas.

**380 PRODUCT DEVELOPMENT (2)**  
(Formerly E.T. 63)

*One lecture hour, three lab hours per week. Prerequisite: Successful completion of E.T. 280 and E.T. 330 or equivalent industrial experience.*

The student is acquainted with RF prototyping techniques and the various phases of product development and packaging. (Extra supplies required.)

## Engineering

### 1a-1b ENGINEERING MEASUREMENTS (PLANE SURVEYING) 3-3

Two lecture and three lab hours per week. Prerequisite: 1a – Math. 21; 1b – Engin. 1a.

**1a** — Theory of measurements with application in surveying; measurement of distance, differential leveling, measurements of angles and directions; field astronomy; systematic and random errors, adjustment of observations. **1b** — Route surveys, topographic surveys, earthwork triangulation, U.S. public land surveys; theory of state plane coordinate systems, municipal surveys; introduction to photogrammetry; legal aspects of surveying.

### 4 THE ENGINEERING PROFESSION (2)

Two class hours per week.

An historical overview of the branches and functions of engineering, the engineering approach to problem analysis and solution, a preview of basic engineering sciences. Occasional lectures by practicing engineers.

### 14 MECHANICAL DRAWING (3)

See Drafting Technology 14.

### 16 STATICS (3)

See Architecture 16.

### 17 STRENGTH OF MATERIALS (3)

See Architecture 17.

### 19 FUNDAMENTALS OF PHOTOGRAMMETRY (3)

Two lecture and three lab hours per week. Prerequisites: Math. 21 and Engin. 1a or 90a.

Elements of photogrammetric optics; aerial cameras and accessories; flight planning; principles of radial-line plotting and planimetric mapping; stereoscopy and parallax; mosaics, stereoscopic plotting instruments; photo interpretation.

### 20 DESCRIPTIVE GEOMETRY (2)

Six class hours per week. Prerequisite: Math. 21. Recommended: One year of high school mechanical drawing or Engin. 14.

Fundamental principles of descriptive geometry and their application to engineering problems. Mathematical methods, vectors, truss and space-force polygons.

### 22 ENGINEERING GRAPHICS (2)

Six class hours per week. Prerequisite: Engin. 20; Math. 31 or Math. 23a (may be taken concurrently).

Graphical mathematics, data representation, nomography and graphical calculus. Engineering sketches and working drawings. Introduction to engineering design principles and documentation by means of a student-designed apparatus.

### 35 STATICS (3)

Three class hours per week. Prerequisite Math. 31 or Math. 23a. Recommended: Engin. 20.

Plane and space force systems; vector algebra, equilibrium problems covering structures, machines, distributed force systems, friction, moments of inertia, and virtual work.

### 36 DYNAMICS (3)

Three class hours per week. Prerequisites: Engin. 35, Math. 32 or Math. 23b. Physics 2b with grade B, or Physics 4a.

Applied vector algebra. Kinematics: rectilinear, curvilinear and relative motion. Kinetics: Newton's laws, work, energy, impulse and momentum. Vibration and time response. Introduction to fluid mechanics.

### 37 STRENGTH OF MATERIALS (3)

Three class hours per week. Prerequisites: Engin. 35 and Math. 32 or Math. 23b.

Elastic stress, strain and deformation; analysis of members under axial, torsional, flexural and combined loads. Statically indeterminate beams. Columns, impact and cyclic loads, theories of failure and introduction to ultimate resistance of materials.

### 38 CIRCUITS AND DEVICES (3)

Three class hours per week. Prerequisite: Math. 32, Physics 4b or equivalent.

Introduction to circuits, natural and forced response, network theorems; characteristics and circuit models of electronic devices and transistor amplifiers.

### 45 MATERIALS SCIENCE (3)

Two lecture and three lab hours per week. Prerequisites: Math. 31 and Chem. 1a. Recommended: Physics 4a.

Introduction to mechanics of solids, atomic and crystal structure, chemical and physical properties, phases of microstructures, solid state transformations, mechanical and thermal treatment of alloys. Structure and properties of semiconductors, aggregate materials and polymers.

**46 ENGINEERING REVIEW (E.I.T. Exam) (3)**

Three lecture hours per week. Prerequisites: One year of engineering calculus and one year of engineering physics or equivalent.

A survey review of subjects from the several engineering disciplines, including topics selected from engineering mathematics, electricity, statics, dynamics, fluids, thermodynamics and engineering economics; with additional discussion of engineering as a profession. Preparation for the Engineer-In-Training examination (first half of the Professional Engineer examination boards). (May be repeated for credit.)

**47 COOPERATIVE EDUCATION (1-4)  
(Credit/No Credit)**

Work experience in a field related to a career goal, supplemented by individual counseling from an instructor-coordinator. (See Page 130.)

**48 SELECTED TOPICS IN ENGINEERING (1-3)**

Hours by arrangement.

Selected topics in Engineering not covered by regular catalog offerings. Course content and unit credit to be determined by the Math/Science Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

**49 SPECIAL PROJECTS (1-2)**

Hours by arrangement. Prerequisite: 3.0 GPA in subject field.

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

**90a-90b ELEMENTS OF SURVEYING (3-3)**

Two lecture and three lab hours per week. Prerequisites: 90a – High school-level Mathematics through Geometry; 90b – Engin. 90a.

**90a** — Use, adjustment and care of surveying instruments; basic surveying measurements of distances, elevations, angles and directions, principles and methods for planning and conducting land surveys. **90b** — Practical applications of the basic principles of Engin. 90a, including location and construction surveys, boundary surveys, determination of meridian, and introductions to public land surveys, state plane coordinate systems and industrial applications.

**91 LAND SURVEYING LICENSE  
(BOUNDARY CONTROL) (3)**

Three lecture hours per week. Prerequisite: High school-level mathematics which include plane Geometry, Trigonometry and Algebra; Engineering 90b or equivalent.

Preparation for the California State Land Surveying License examination. Particular emphasis on boundary control and legal principles of surveying.

**92 LAND SURVEYING LICENSE (PUBLIC LAND) (3)**

Three lecture hours per week. Prerequisite: Engineering 91 or equivalent

Preparation for the California State Land Surveying license examination. Particular emphasis on U.S. Government lands and property location.

## English

**English Placement Test** — Required of all entering freshmen. Students transferring to College of San Mateo with credit in college English (a course equivalent to English 11, Interpretation and Composition) will not be required to take the test. It is designed to determine the entrant's ability in reading, in the mechanics of writing, and in composition. It is used (in addition to other information) to determine placement of students in English 11 and other college transfer courses in English.

### The English Program

The English program consists of transfer and non-transfer courses in composition, literature, language, and speech. Entering students enroll first in one of the following courses in composition:

Transfer Course	Non-Transfer Courses
English 11	English A or English 61

The English requirement may be completed with an additional three units chosen from the following courses:

Transfer Courses	Non-Transfer Courses
English 12	English 62
Speech 1a	English 63
Speech 10	English 65
	English 67

Note that English 11 is the prerequisite for English 12. English A or English 61 is the prerequisite for English 62, 63 and 65. English A is prerequisite for English 11 except for students who placed in English 11 on the placement test.

English 67 (Reading Improvement Lab — 1-3 units) may be taken concurrently with any of the other courses in the English program.

Other English transfer courses are those numbered below fifty; other English non-transfer courses are those numbered above fifty.

**A (ENGL 450) BASIC INTERPRETATION AND COMPOSITION (3)**

*Three class hours per week.*

Training in the principles of composition, with emphasis on the brief expository essay. Practice in writing based on the study of essays, fiction, poetry, etc. (Designed mainly to prepare students for English 11.)

**A/11 (ENGL 440) INTERMEDIATE COMPOSITION (4)  
(A/11X Writing Practicum)**

*Three class hours per week of lecture and discussion. Two hours per week in the writing practicum, working on specific writing problems and assignments.*

Practice in writing based on the reading and study of essays, short stories, and poems. NOTE: The student will receive one unit of credit for the practicum work (English A/11X: Writing Practicum); the other three units will appear on the transcript as credit for either English 11 or English A, depending upon the level of achievement as a writer at the end of the semester.

**2 (ENGL 165) ADVANCED COMPOSITION (3)**

*Three class hours per week. Prerequisite: English 11.*

Designed for students who already have some experience with writing both formal and informal essays and want to go further into the techniques of essay and article writing, with particular emphasis on the use of certain devices of fiction: scene-by-scene narration, details, point of view, and dialogue.

**3 (ENGL 200) THE TERM PAPER (1)**

*Two lecture hours per week for eight weeks.*

A short course designed to assist the student who has never had the experience of writing a documented or "research" paper. Emphasizes the process and techniques involved in the actual production of a term paper.

**9a-9b (ENGL 161-162) CREATIVE WRITING (2-2)**

*Two class hours per week. Prerequisites: 9a—English 12; 9b—English 9a.*

The craft of writing short stories, sketches and poetry. In the Spring semester, members of the class may contribute to the College of San Mateo annual magazine, "Pendulum."

**11 (ENGL 101) INTERPRETATION AND COMPOSITION (3)**

*Three class hours per week.*

Practice in writing based on a study of significant essays, poetry, fiction, drama, song lyrics, films, etc.

**12 (ENGL 115, 120, 130, 140) INTRODUCTION TO LITERATURE (3)**

*Three class hours per week. Prerequisite: English 11. Note: Each English 12 course (a, b, c and d) may be taken separately for units of credit.*

**12a (ENGL 115) Major Types** — Study of literary types; fiction, drama and poetry. Reading analysis and discussion of selected works; written reports; oral reading, lectures.

**12b (ENGL 120) Poetry** — Reading, analysis and discussion of selected poetry; written reports; oral reading; lectures.

**12c (ENGL 130) Fiction** — The short story and novel. Reading, analysis and discussion of selected works; written reports; oral readings; lectures.

**12d (ENGL 140) Drama** — Reading, analysis and discussion of selected dramatic works; written reports; oral readings; lectures.

**13 (ENGL 210) WORD STUDY (3)  
(Formerly Introduction to Semantics)**

*Three class hours per week. Prerequisite: English 11.*

Vocabulary course including principles of semantics. Some specific topics covered include etymology, dialects, roots, and combining forms.

**14 (ENGL 220) STRUCTURE OF THE ENGLISH LANGUAGE (3)**

*Three class hours per week. Prerequisite: English 11.*

Study of historical changes in language from the view of the traditional and modern grammatical systems, including an analysis of linguistic concepts. (Spring only.)

**15a-15b (LIT 471-472) FILMMAKING (4-4)**

*Three lecture and six lab hours per week.*

**15a**—Introduction of film theory, aesthetics, and 8mm production; includes screenplay writing and critical writing as well as crew work on videotape productions and super-8mm motion picture. **15b**—Advanced theory, aesthetics, and 8mm production. Students will work on a production crew as well as writing and producing their own motion pictures. (Identical to Fine Arts 15a/b.) (May be repeated for credit.)



**16a-16b (LIT 461-462) FILM HISTORY (3-3)**

*Three lecture and two lab hours per week.*

A two-semester survey of the evolution of the motion picture from the earliest efforts of European and American filmmakers through post-World War II productions. Emphasis on film appreciation, on the language of film, and on analysis for full film enjoyment. (Identical to Fine Arts 16a/b.)

**20 (LIT 440) MYTHOLOGY AND FOLKLORE (3)**

*Three class hours per week. Prerequisite: English 12 or equivalent.*

A survey of major gods and heroes, recurring mythological themes, and relationships between man and his gods, primarily in the Greek and Roman cultures.

**21 (LIT 111) THE SHORT STORY (2)**

*Two class hours per week. Prerequisite: English 12 or equivalent.*

Study of short stories. Class discussion and reports; lectures.

**22 (LIT 181) THE BIBLE AS LITERATURE (3)**

*Three class hours per week. Prerequisite: English 12 or equivalent.*

Study of the significant writings of the Old and New Testaments and of the Apocrypha.

**23 (LIT 131) INTRODUCTION TO POETRY (3)**

*Three class hours per week. Prerequisite: English 12 or equivalent.*

Lectures concerning the various elements of and approaches to poetry. Intensive and extensive reading, discussion, critical papers. (Spring only.)

**24 (LIT 155) MODERN DRAMA (3)**

*Three class hours per week. Prerequisite: English 12 or equivalent.*

Study, from a theatrical as well as a literary point of view, of the outstanding masterpieces of the modern theatre. Lectures; discussion; recordings by professional actors.

**25 (LIT 161) INTRODUCTION TO SHAKESPEARE (3)**

*Three class hours per week. Prerequisite: English 12 or equivalent.*

Emphasis upon Shakespeare's poetic and dramatic growth as a writer through a study of representative plays and poems. Reading, discussion, critical papers.

**26 (LIT 121) THE NOVEL (3)**

*Three class hours per week. Prerequisite: English 12 or equivalent.*

Study of novels of the late 19th and 20th Centuries and of various aspects of literary criticism. Reading, discussion and critical papers.

**27 (LIT 101) CONTEMPORARY LITERATURE (3)**

*Three class hours per week. Prerequisite: English 12 or equivalent.*

Study of selected fiction, poetry and drama of the 20th Century. Lectures, discussions, related reading, writing of critical papers. (Spring only.)

**29 (LIT 320) WOMEN AND LITERATURE (3)**

*Three class hours per week. Prerequisite: English 12 or equivalent.*

Survey images of women in literature from 1600 to present. Study of selected women writers. Reading, discussion and critical papers.

**30 (LIT 200) MAJOR FIGURES IN AMERICAN LITERATURE (3)**

*Three class hours per week. Prerequisite: English 12 or equivalent.*

Study of the writings of some of the major figures in American literature. Intensive reading, lectures, discussion, papers. (May be repeated for credit.)

**31a (LIT 201) AMERICAN LITERATURE (3)**

*Three class hours per week. Prerequisite: English 12 or equivalent.*

Study of American literature from the beginning through the period of Mark Twain. Lectures; reading, analysis and discussion of selected works, papers.

**31b (LIT 202) AMERICAN LITERATURE (3)**

*Three class hours per week. Prerequisite: English 12 or equivalent.*

Study of American literature since Mark Twain. Lectures; reading, analysis and discussion of selected works, papers.

**42a (LIT 251) WORLD LITERATURE MASTERPIECES (3)  
(Formerly Masterpieces of European Literature)**

*Three class hours per week. Prerequisite: English 12 or equivalent.*

Study of various works of European literature from the classical period to the 17th Century. Reading, analysis and discussion of selected works; written reports; lectures.

**42b (LIT 252) WORLD LITERATURE MASTERPIECES (3)**  
(Formerly Masterpieces of European Literature)

Three class hours per week. Prerequisite: English 12 or equivalent.

Study of various works of European literature from the 17th Century to the present, with emphasis on European prose. Readings, analysis and discussion of selected works; written reports, oral readings and lectures.

**43 (LIT 330) BLACK LITERATURE (3)**  
(Formerly Afro-American Literature)

Three class hours per week. Prerequisite: English 12 or equivalent.

Comprehensive survey of the Afro-American letters in the United States from 1619 to the present. (Identical to Ethnic Studies 43)

**46a (LIT 231) SURVEY OF ENGLISH LITERATURE (3)**

Three class hours per week. Prerequisite: English 12 or equivalent.

Study of the typical works of major English writers from Chaucer to the end of the 18th Century. Lectures, discussions, recordings. (Recommended for English majors.)

**46b (LIT 232) SURVEY OF ENGLISH LITERATURE (3)**

Three class hours per week. Prerequisite: English 12 or equivalent.

Study of the typical works of major English writers of the 19th and 20th Centuries. Lectures, discussions, recordings. (Recommended for English majors.)

**47 (ENGL 597) COOPERATIVE EDUCATION (1-4)**  
(Credit/No Credit)

Work experience in a field related to a career goal, supplemented by individual counseling from an instructor-coordinator. (See Page 130.)

**48 (ENGL 580) SELECTED TOPICS IN ENGLISH (1-3)**

Hours by arrangement.

Selected topics in English not covered by regular catalog offerings. Course content and unit credit to be determined by the Language Arts Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

**49 (ENGL 590) SPECIAL PROJECTS (1-2)**

Hours by arrangement. Prerequisite: 3.0 GPA in subject field.

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

**57a-57b (ENGL 311-312) ENGLISH FOR NON-NATIVE SPEAKERS (1-5, 1-5)**

Five class hours per week. Prerequisite: 57a-Diagnostic test; 57b-English 57a.

Study of English grammar and composition, drill in oral and written vocabulary, sentence structure and English idiom.

**61 (ENGL 820) BASIC READING AND COMPOSITION (3)**

Three class hours per week.

Practice in reading and writing based on a study of essays, poetry, fiction, drama, song lyrics, films, etc.

**61/A (ENGL 822) BASIC READING, INTERPRETING, AND COMPOSITION (3)**  
(61/AX Writing Practicum)

Three class hours per week of lecture and discussion, plus two hours per week in writing practicum on specific writing problems and assignments.

Practice in writing based on the reading and study of essays and short stories. Note: The student will receive one unit of credit for his/her practicum work (English 61/AX: Writing Practicum); the other three units will appear on the transcript as credit for either English A or English 61, depending upon the level of writing achievement at the end of the semester.

**62 (ENGL 821) BASIC INTRODUCTION TO LITERATURE (3)**

Three class hours per week. Prerequisite: English 61 or English A.

Study of fiction, drama and poetry. Reading, class discussion; oral readings; lectures; written reports.

**63 (ENGL 861) VOCABULARY STUDY (3)**

Three class hours per week.

The use of the dictionary, with emphasis on contemporary usage and practical application of vocabulary skills in the mastery of other subjects. Designed to increase and improve the student's word stock.

**65 (ENGL 881) GRAMMAR DEVELOPMENT (3)**  
(Formerly English Grammar)

Three class hours per week.

Study of basic grammar, including such topics as sentence structure, diction, agreement, punctuation, and troublesome verbs.

**66 (ENGL 800) READING: BASIC PHONIC SKILLS (3)**

Three class hours per week plus one to two hours per week with a tutor or in the reading laboratory.

Introduction to the study of basic speech sounds and practice in pronouncing any word met in reading. Review of dictionary symbols, diacritical marks, syllabication, and fundamental phonic generalizations. (May be repeated up to three times for credit.)

**67 (READ 802) READING IMPROVEMENT LAB (1-3)**  
(Credit/No Credit)

Three class hours per week. Course may be offered five hours per week for eight weeks.

Reading techniques designed to improve rate and comprehension on various types of material, fiction and nonfiction. Introduction to and practice with various machines, programmed materials and texts. Individual evaluation to discover strengths and help student deal with his weaknesses. (May be repeated once for credit.)

**75 (LIT 461) FILM STUDY: THE CINEMA (2)**

One lecture and two lab hours per week.

Viewing of a number of significant motion pictures; analyzing, interpreting, and evaluating these films; discussion of specific pictures and cinema in general.

## Ethnic Studies

**1a (100) INTRODUCTION TO ETHNIC STUDIES (3)**

Three class hours per week.

The evolution of the earliest inhabitants of the United States, the Native Americans and La Raza. The two groups as they represent convergent and divergent cultures. Their history and cultural contributions in the United States, explored through lectures, films, discussions, and projects.

**1b (101) INTRODUCTION TO ETHNIC STUDIES (3)**

Three class hours per week.

History and cultural contributions of Asians and Blacks in the

United States. A chronological look at the evolution of the two groups in the United States, through lecture, film, discussion and projects.

**3 (300) INTRODUCTION TO LA RAZA STUDIES (3)**

Three class hours per week.

Analysis of the origin, growth and development of mestizo peoples in the Americas. Introduction to the objectives, philosophies and history of the Chicano-Latino people and their cultural contributions to the United States. Examination of the dynamic and interpersonal dimensions of Chicanismo, utilizing lectures, films and group discussions.

**4 (400) THE HISTORY OF ASIAN PEOPLE IN THE UNITED STATES (3)**

Three class hours per week.

Asian-American history from 1840 to the present with special attention to the contemporary issues and problems that are prevalent in the Asian-American communities.

**5 (305) INTRODUCTION TO NATIVE AMERICA (3)**

Three class hours per week.

Emphasizes the aspects of life, thought and culture that characterize the Native American and distinguish him from non-Indian cultures. Differences and similarities among various tribes are studied.

**6a-6b (150-151) PATTERNS OF PREJUDICE AND RACISM (3-3)**

Three class hours per week.

**6a** — Problems of prejudice and racism. Personality development, psychoanalytic theories of prejudice, and racist-oriented trends and patterns are explored in depth, with a consideration of the mythical and factual concepts employed to substantiate prejudice. **6b** — Concentration on specific cultural traditions. The origins of racial prejudice are traced to man's first recognition of racial differences and his subsequent historical reactions. (Identical to Sociology 40a-40b.)

**7 (160) PSYCHOLOGY OF PEOPLE OF COLOR (3)**

Three class hours per week.

The development of psychological theories that provide viable alternative methods of analyzing the ideational and behavioral mechanisms operative among Third World persons. Exploration of methods of treatment of the major mental illnesses affecting each culture.

**8 (310) CULTURAL CONTRIBUTIONS OF BROWN AND RED PEOPLES (3)**

Three class hours per week.

Cultural contributions including art, drama, music, dance, and dress patterns intrinsic to the culture of Brown and Red peoples. The significance of each of these art forms to American life and how they have affected the American scene. (Identical to Anthropology 8.)

**11 (320) LITERATURE AND LIFE OF BROWN AND RED AMERICANS (3)**

*Three class hours per week.*

Emphasizes the writer's contributions to the definition of American life and his attempt to articulate the anxieties, joys, frustrations, and sorrows of his people. Investigates his life in relation to his changing environment as described by his literary works.

**12 (350) CASTANEDA: NATIVE/LATIN-AMERICAN LIFE (3)**

*Three class hours per week.*

Yaqui way of life and ancient Indian philosophies, including views on the universe, nature, dignity and self-esteem.

**14 (410) THE CHINESE IN THE UNITED STATES (3)**

*Three class hours per week.*

Socio-cultural history of the Chinese in America, their migration into urban areas, socialization, and role in American society from the 19th Century to the present. Particular attention devoted to the transition of the Chinese family upon arrival in the United States.

**15 (280) AFRO-AMERICAN LANGUAGE (3)**

*Three class hours per week.*

Examination of the development of African-American language as a product of cultural contact. Linguistic roots of the language spoken by Black Americans. Innovative teaching methods for Black children and adults are utilized.

**16 (170) SOCIAL DYNAMICS OF PEOPLE OF COLOR (3)**

*Three class hours per week.*

Social structure and dynamics of Third World institutions, with emphasis upon development and effectiveness of these institutions upon Third World communities in the United States. Concentrations include the family, education, religion, and business. (Identical to Sociology 16.)

**17 (210) AFRICAN LITERATURE (3)**

*Three class hours per week.*

Survey of works of contemporary African writers. An introduction course about the peoples and cultures of Africa through their literature, myths, legends, proverbs, and oral tradition as expressed by contemporary authors.

**18 (220) GOVERNMENTS AND POLITICS OF AFRICA (3)**

*Three class hours per week.*

Focus on critical analysis of the processes and practices in African political life and the forces that shape them. (Identical to Political Science 18.)

**20 (298) CRIME AND THE BLACK COMMUNITY (3)**

*Three class hours per week.*

Explores nature and extent of crime among Blacks in the U.S. Seeks to understand crime, suggest methods of control, and predict criminality within the Black community. Topics covered: crimes against person, property, conviction rates among Blacks and application of penal codes.

**25 (420) JAPANESE-AMERICAN RELOCATION CAMPS (3)**

*Three class hours per week.*

An introduction to the Japanese-American internment experience during World War II. Anti-Japanese sentiment during the 1930's and its impact on West Coast Japanese. Topics to be explored include the rationale for removal, the evacuation process, life in the camps, generational conflicts, resistance to the camps, and the post-war impact of the camps.

**33a-33b (271-272) AFRICAN-AMERICAN CULTURE (3-3)  
(Formerly Afro-American Culture)**

*Three class hours per week.*

The history and evolution of Black culture in the United States, tracing its cultural institutions from Africa to the United States. The Black family, arts, religion, language, political and other social and cultural institutions and expressions are examined historically. Special emphasis on California's African-American tradition. (Identical to Social Science 33a-33b.)

**41 (290) SURVEY OF BLACK MUSIC (3)**

*Three class hours per week.*

Chronological survey of the various styles and salient elements of the music of the Afro-American, encompassing sociological as well as musical factors. (Identical to Music 7.)

**42 (291) HISTORY OF JAZZ**

*Three class hours per week. Prerequisite: Ethnic Studies 41, Music 7a, Music 28, or equivalent.*

Study of jazz since 1900, with emphasis on instrumental styles; the development of jazz since 1940 and contemporary trends. (Identical to Music 8.)

**43 (275) BLACK LITERATURE (3)**

*Three class hours per week. Prerequisite: English 12.*

Comprehensive survey of Afro-American letters in the United States from 1619 to the present. (Identical to English 43.)

**44 (295) THE HISTORY OF BLACKS IN FILM (3)**

*Three class hours per week.*

Contributions of Blacks in the film industry and their historical relationship to the industry. Extensive use of films, supplemented by lecture and presentations by Black persons involved in the film industry.

**45 (480) THIRD WORLD CINEMA (1)  
(Credit/No Credit)**

*Three class hours per week for six weeks.*

An overview of the history of film by and about Third World peoples and their contributions to the development of cinema. Focus on films by and about African people in various parts of the world.

**46 (575) SOCIAL INVESTIGATION & RESEARCH IN ETHNIC URBAN COMMUNITY ORGANIZATIONS (3)**

*Two hours of lecture and three hours of supervised field work per week. Prerequisites: Six units of Ethnic Studies and/or Social Science courses.*

Analysis of recent urban and social developments in San Mateo County communities. Theoretical and empirical dimensions of the urban ethnic experience. Participation in a selected community-based organization located in an urban institutional setting. A written report will mark completion of the project.

**48 (580) SELECTED TOPICS IN ETHNIC STUDIES (1-3)**

*Hours by arrangement.*

Selected topics in Ethnic Studies not covered by regular catalog offerings. Course content and unit credit to be determined by the Social Science Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

**49 (590) SPECIAL PROJECTS (1-2)**

*Hours by arrangement. Prerequisite: 3.0 GPA in subject field.*

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

## Fine Arts

**15a-15b FILMMAKING (3-3)**

*Three lecture and six lab hours per week.*

**15a** — Introduction to film theory, aesthetics, and 8mm production; includes screenplay writing and critical writing, as well as crew work on videotape productions and super-8mm motion pictures. **15b** — Advanced theory, aesthetics and 8mm production. Students work on a production crew, as well as write and produce their own motion pictures. (Identical to English 15a/b.) (May be repeated for credit.)

**16a-16b FILM HISTORY (3-3)**

*Three lecture and two lab hours per week.*

A two-semester survey of the evolution of the motion picture from the earliest efforts of European and American filmmakers through post-World War II productions. Emphasis on film appreciation, on the language of film, and on analysis for full film enjoyment. (Identical to English 16a/b.)

**17a-17b MOTION PICTURE PRODUCTION (3-3)**

*Two lecture and five lab hours per week. Prerequisites: 17a – Fine Arts 15a-15b or equivalent; 17b – Fine Arts 17a or equivalent.*

**17a** — Introduction to the basic photographic and cinematographic techniques used in television and motion picture production. Includes graphics for television, sound-on-film techniques, script writing, and on-location photography laboratory. (Extra supplies may be required.) (Identical to Telecommunications 70.) **17b** — Additional on-location training.

## Fire Science

**47 COOPERATIVE EDUCATION (1-4)  
(Credit/No Credit)**

Work experience in the field of fire protection and suppression, supplemented by individual counseling from an instructor-coordinator. (See Page 130.)

**48 SELECTED TOPICS IN FIRE SCIENCE (1-3)**

Selected topics in Fire Science not covered by regular catalog offerings. Course content and unit credit to be determined by the Health and Service Careers Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.



**49 SPECIAL PROJECTS (1-2)**

*Hours by arrangement. Prerequisite: 3.0 GPA in subject field.*

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

**50 FIRE FIGHTING TACTICS (3)**

*Three lecture hours per week.*

Study of facts and probabilities, the firefighter's own situation, decision and plan of operation in combating a variety of emergency fire problems.

**51a FIRE SCIENCE HYDRAULICS (3)**

*Three lecture hours per week.*

Basic mathematics, principles of hydraulics, calculations of engine and nozzle pressures, discharge, fire streams, friction loss and pump operation and characteristics. Application of formulas to hydraulics and water supply problems.

**53 COMPANY ADMINISTRATION (3)**

*Three lecture hours per week.*

Introduction to fire service organization, with emphasis on company officers in relation to planning, responsibility, organizing and supervision necessary to meet the needs of the fire service agency.

**54 PERSONNEL ADMINISTRATION (3)**

*Three lecture hours per week.*

Organization and administration of fire service personnel; analysis, classification and description of jobs; incentives; evaluation; placement activities; training, safety, medical, grievances, discipline and employee benefits.

**55 INTRODUCTION TO FIRE PROTECTION AND SUPPRESSION (3)**

*Three lecture hours per week.*

The philosophy and history of fire protection, characteristics and behavior of fire, fire extinguishing agents, and fire protection organization and associated equipment. A brief introduction to the Insurance Service Offices Grading Schedule and its relation to insurance rates.

**56 FUNDAMENTALS OF FIRE PREVENTION (3)**

*Three lecture hours per week.*

Fundamentals of fire prevention techniques, procedures, reg-

ulation and enforcement; discussions of hazards in ordinary and special occupancies; organization and functions of fire prevention bureaus.

**61 FIRE DEPARTMENT APPARATUS AND EQUIPMENT (3)**

*Three lecture hours per week.*

Operation, care and maintenance, specifications, capabilities and effective utilization of fire service apparatus and related equipment.

**62a-62b HAZARDOUS MATERIALS I AND II (3-3)**

*Three lecture hours per week.*

**62a** — An introduction to basic fire chemistry and physics. Problems of flammability as encountered by firefighters when dealing with fuels and oxidizers. Elementary fire fighting practices pertaining to hazardous materials in storage and transit. **62b** — Handling, identification, and fire fighting practices involving explosive, toxic and radioactive materials in storage and transit.

**63 BUILDING CONSTRUCTION FOR FIRE PROTECTION (3)**

*Three lecture hours per week.*

Fundamentals of building construction as it relates to fire protection, with emphasis on code requirements, utilization of building materials and their fire resistive qualities.

**64 FIRE PROTECTION EQUIPMENT AND SYSTEMS (3)**

*Three lecture hours per week.*

A study of water supply systems, portable and fixed fire extinguishing equipment, sprinkler systems, protection systems for special hazards, and fire detection and alarm systems.

**65 RELATED CODES AND ORDINANCES (3)**

*Three lecture hours per week.*

Familiarization and interpretation of national, state, and local laws and ordinances which influence the field of fire prevention and safety.

**66 RESCUE PRACTICES (3)**

*Three lecture hours per week.*

Fundamentals of rescue practices, use of emergency tools and equipment, vehicle extrication, emergency care of accident victims, cardiopulmonary resuscitation, and emergency first aid.

**67 FIRE INVESTIGATION (3)**

*Three lecture hours per week.*

Introduction to arson and incendiarism, arson laws and types of incendiary fires, methods of determining fire cause, recognizing and preserving evidence, interviewing and detaining witnesses; procedures in handling juveniles; court procedure and giving court testimony.

**68a-68b FIRE SERVICE TRAINING TECHNIQUES (3-3)**

*Three lecture hours per week. Prerequisite: Basic Certificate or equivalent.*

**68a** — Designed for fire company officers who conduct in-service training programs. Identification of training needs, use of occupational analysis, identifying course objectives and content, establishing levels of instruction, constructing student performance goals, constructing manipulative lesson plans, preparing supplementary instruction sheets, and teaching manipulative skills. **68b** — Fundamentals of establishing levels of technical instruction, constructing student performance goals, constructing technical lesson plans, teaching technical subjects, and use of visual teaching aids.

**70a-70b BASIC FIRE ACADEMY I & II (5-5)**

*Four lecture and three lab hours per week. Prerequisite: F.S. 70a–None; F.S. 70b–F.S. 70a.*

**70a** — Designed for pre-service instruction in fire service organizations, fire control, equipment operations and procedures, extinguishers and protective equipment, care and use of hose, nozzles and fittings. **70b** — Lecture and manipulative instruction in basic and advanced hose evolutions, fire service ladders, salvage and overhaul procedures, and emergency medical care.

## Foreign Language

Students who expect to transfer to a four-year institution are strongly advised to study a foreign language at the College. Please see individual listing for offerings in French, German, Italian, Russian, and Spanish.

## French

**Language Laboratory and Listening Requirement** — Students enrolled in certain courses in foreign language are required to make use of the language laboratory as prescribed by each department. Limitation, response and independent practice are integral features of the study of a foreign language at the College.

**1 (FREN 100) ELEMENTARY FRENCH (5)**

*Five class hours and two lab hours per week.*

Conversation in the language, dictation, reading, study of the fundamentals of grammar and the writing of simple French exercises.

**1a (FREN 101) ELEMENTARY FRENCH (3)**

*May be offered either for eight weeks on a daily basis plus two lab hours, or in a semester-long program for three class hours and one lab hour per week.*

Approximately half of the semester's work in French 1 is covered in this course.

**1b (FREN 102) ELEMENTARY FRENCH (3)**

*May be offered either for eight weeks on a daily basis plus two lab hours, beginning at mid-term, or in a semester-long program for three class hours and one lab hour per week. Prerequisite: French 1a or equivalent.*

Approximately the second half of the semester's work in French 1 is covered. (French 1a and 1b are equivalent to French 1.)

**2 (FREN 103) ADVANCED ELEMENTARY FRENCH (5)**

*Five class hours and two lab hours per week. Prerequisite: Completion of French 1 or French 1b with a passing grade, or assignment by the Foreign Language Department on the basis of the Foreign Language Placement Test in French.*

Conversation, dictation, further study of grammar and sentence structure; study of cognates, derivatives and idioms, reading of short stories.

**2a (FREN 104) ADVANCED ELEMENTARY FRENCH (3)**

*May be offered either for eight weeks on a daily basis plus two lab hours, or in a semester-long program for three class hours and one lab hour per week. Prerequisite: French 1 or 1b.*

Approximately the first half of the semester's work in French 2 is covered.

**2b (FREN 105) ADVANCED ELEMENTARY FRENCH (3)**

*May be offered either for eight weeks on a daily basis plus two lab hours, beginning at mid-term, or in a semester-long program for three class hours and one lab hour per week. Prerequisite: French 2a or equivalent.*

Approximately the second half of the semester's work in French 2 is covered. (French 2a and 2b are equivalent to French 2.)

**3 (FREN 106) INTERMEDIATE FRENCH (5)**

Five class hours and one lab hour per week. Prerequisite: Completion of French 1 and 2 with a passing grade, or assignment by the Foreign Language Department on the basis of the Foreign Language Placement Test in French. Concurrent enrollment in French 8a recommended.

Reading of short stories, plays or novels; review of grammar, conversation, composition, dictation.

**3a INTERMEDIATE FRENCH (3)**

May be offered either for eight weeks on a daily basis plus one lab hour, or in a semester-long program for three class hours and one-half hour lab per week. Prerequisite: French 2 or 2b.

Approximately the first half of the semester's work in French 3 is covered.

**3b INTERMEDIATE FRENCH (3)**

May be offered either for eight weeks on a daily basis plus one lab hour, beginning at mid-term, or in a semester-long program for three class hours and one-half hour lab per week. Prerequisite: French 3a or equivalent.

Approximately the second half of the semester's work in French 3 is covered. (French 3a and French 3b are equivalent to French 3.)

**4 (FREN 107) ADVANCED INTERMEDIATE FRENCH (3)**

Three class hours and one lab hour per week. Prerequisite: Completion of French 3 with a passing grade, or assignment by the Foreign Language Department on the basis of the Foreign Language Placement Test in French. Concurrent enrollment in French 8a or 8b recommended.

Reading of selections from French literature and reading of a contemporary novel; further practice of conversation and composition; continued review of principles of grammar; analysis of idioms.

**8a (FREN 201) FRENCH CONVERSATION (2)**

Two class hours and one lab hour per week. Prerequisite: French 3 or French 4, or concurrent enrollment in French 3, or equivalent. (Native speakers not eligible.)

Practice in conversation based on French customs and culture. (May be repeated for credit.) (Fall only.)

**8b (FREN 202) FRENCH CONVERSATION (2)**

Two class hours and one lab hour per week. Prerequisite: French 8a or French 4 or 25, or equivalent. (Native speakers not eligible.)

Further practice in conversation based on French customs and culture. (May be repeated for credit.) (Spring only.)

**25a-25b (FREN 115-116) READING IN FRENCH LITERATURE (3-3)**

Three class hours and two lab hours per week, or one hour recording and one hour outside reading. Prerequisites: 25a – Completion of French 4 with a passing grade, or assignment by the Foreign Language Department on the basis of the Foreign Language Placement Test in French. Concurrent enrollment in French 8b recommended. 25b – French 25a.

Reading and discussion of works of French literature. Continued review of principles of grammar.

**30 (FREN 520) INDIVIDUAL READING (1-2)**

Conference periods for oral reports. Time to be arranged. A minimum of three hours of reading per unit of credit is required weekly. Prerequisites: Current enrollment in or completion of French 25b.

Reading of French classics, contemporary literature or recent periodicals. (May be repeated for credit.)

**48 (FREN 580) SELECTED TOPICS IN FRENCH (1-3)**

Hours by arrangement.

Selected topics in French not covered by regular catalog offering. Course content and unit credit to be determined by the Director of the Language Arts Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture or lecture/laboratory class.

**49 (FREN 590) SPECIAL PROJECTS (1-2)**

Hours by arrangement. Prerequisite: 3.0 GPA in subject field.

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

**100a (FREN 800) CONVERSATIONAL FRENCH, ELEMENTARY (2)  
(Credit/No Credit)**

Three class hours per week.

A practical course in the French language approached by way of conversation. Intensive drill in the patterns and idioms of daily speech is supported with sufficient grammar to give flexibility in the spoken language. May be considered an excellent preparatory course for students who have not taken a foreign language before. (This course will not fulfill language requirement at California State Colleges or at the University of California.) (May be repeated for credit.)

When student demand is light, French 100b, 100c, and 100d may be offered as 1.5 hour modules.

**100b (FREN 801) CONVERSATIONAL FRENCH, ADVANCED ELEMENTARY (2)  
(Credit/No Credit)**

Three class hours per week. Prerequisite: French 100a or equivalent.

Further work in conversation following the model of French 100a. (This course will not fulfill language requirements at California State Colleges or at the University of California.)

**100c (FREN 802) CONVERSATIONAL FRENCH, INTERMEDIATE (2) (Credit/No Credit)**

Three class hours per week. Prerequisite: French 100b or equivalent.

More advanced work in conversation following the model of French 100b. (This course will not fulfill language requirements at California State Colleges or at the University of California.) (May be repeated for credit.)

**100d (FREN 802) CONVERSATIONAL FRENCH, ADVANCED INTERMEDIATE (2)  
(Credit/No Credit)**

Three class hours per week. Prerequisite: French 100c or equivalent.

Further advanced work in conversation following the model of French 100c. (This course will not fulfill language requirements at California State Colleges or at the University of California.) (May be repeated for credit.)

## Geography

**1a (100) PHYSICAL GEOGRAPHY (3)  
(Formerly Physical Environment and Man)**

Three class hours per week plus field trips.

Basic characteristics of physical features and their interrelationships; environmental systems and their interactions with man. Maps, photos, and the regional concept are the primary tools for this study. (Satisfies the General Education requirement for Physical Science.)

**1b (110) CULTURAL GEOGRAPHY (3)  
(Formerly Cultural Environment and Man)**

Three class hours per week.

Aerial distribution of the most important parts of man's culture. Emphasis on the way he makes a living; the origin and development of man, population distribution and settlement patterns. (Satisfies Social Science requirement in part.)

**4 (120) ECONOMIC GEOGRAPHY (3)**

Three class hours per week.

Investigation and description of basic resources, and the effects of different cultural and physical environments upon the utilization of these resources. Products of various agricultural areas of the world, mineral resources, industry, transportation, communication and power production.

**5a (140) WORLD REGIONAL GEOGRAPHY (3)**

Three class hours per week.

North and South American landscapes and how they have changed under the impact of population, technological and social change; resulting problems and physical, historical and economic patterns.

**5b (150) WORLD REGIONAL GEOGRAPHY (3)**

Three class hours per week.

European, Asian and African landscapes and how they have changed under the impact of population, technological and social change; resulting problems and physical, historical and economic patterns.

**6 (130) WORLD REGIONAL GEOGRAPHY (3)**

Three class hours per week.

World landscapes and how they have changed under the impact of population, technological and social changes. The problems that have resulted from those changes, and the physical, cultural and economic patterns that have developed.

**48 (580) SELECTED TOPICS IN GEOGRAPHY (1-3)**

Hours by arrangement.

Selected topics in Geography not covered by regular catalog offerings. Course content and unit credit to be determined by the Social Science Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

**49 (590) SPECIAL PROJECTS (1-2)**

Hours by arrangement. Prerequisite: 3.0 GPA in subject field.

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

**99 (800) HISTORICAL GEOGRAPHY (3)**

Three class hours per week.

78-79

COLLEGE OF SAN MATEO  
SAN MATEO, CALIF.

Analysis of selected problems from the historical geography of the United States. Emphasis on small discussion groups. Extensive use of audio-visual materials. (Fulfills American Institutions requirement for students working toward the Associate in Arts degree.) (Identical to History 99.)

## Geology

### 1a GENERAL GEOLOGY: DYNAMIC AND STRUCTURAL (4)

Three lecture and three lab hours per week plus two field trips. (Not open to students who have taken or are taking Geology 10.)

An introduction to the nature and structure of the materials composing the earth and of the various processes which shape the earth's surface.

### 1b HISTORICAL GEOLOGY (4)

Three lecture and three lab hours per week, plus one weekend field trip and one day-long field trip. Prerequisite: Geology 1a or Geology 10.

Geological history of the earth and the evolution of its animal and plant inhabitants. (Offered alternate spring semesters.)

### 6 ELEMENTARY MINERALOGY (4)

Two lecture and six lab hours per week, plus one four-day field trip, two one-day field trips and one half-day field trip. Recommended: Elementary Chemistry.

Basic principles of crystallography, crystal chemistry and mineral formation. Laboratory includes mineral and rock identification, plus work on crystal models and the crystal projections. (Offered alternate spring semesters.)

### 10 SURVEY OF GEOLOGY (3)

Day: Two lecture and one recitation hour per week plus two field trips. Evening: Three hours per week plus two Saturday field trips. Not open to students who have taken or are taking Geology 1a.

Basic principles of igneous, sedimentary and metamorphic geology. Lectures on rocks, minerals and the origin of the earth, continents and mountains. A brief sketch of the geological history of the earth and the evolution of its animal and plant inhabitants.

### 48 SELECTED TOPICS IN GEOLOGY (1-3)

Hours by arrangement.

Selected topics in Geology not covered by regular catalog

offerings. Course content and unit credit to be determined by the Math/Science Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

### 49 SPECIAL PROJECTS (1-2)

Hours by arrangement. Prerequisite: 3.0 GPA in subject field.

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

## German

**Language Laboratory and Listening Requirement** — Students enrolled in certain courses in foreign language are required to make use of the language laboratory as prescribed by each department. Imitation, response and independent practice are integral features of the study of a foreign language at the College.

### 1 (GERM 100) ELEMENTARY GERMAN (5)

Five class hours and 2 lab hours per week.

Study and practice (both oral and written) of basic forms and patterns of German, development of a satisfactory pronunciation, the learning and using of vocabulary of high frequency, and the reading of simple German text. The student is required to make extensive use of the listening facilities in the College library and of the language laboratory.

### 1a (GERM 101) ELEMENTARY GERMAN (3)

May be offered either for eight weeks on a daily basis plus two lab hours, or in a semester-long program for three class hours and one lab hour per week.

Approximately half of the semester's work in German 1 is covered in this course. Recommended for those students without any background in foreign language study.

### 1b (GERM 102) ELEMENTARY GERMAN (3)

May be offered either for eight weeks on a daily basis plus two lab hours, beginning at mid-term, or in a semester-long program for three class hours and one lab hour per week. Prerequisite: German 1a or equivalent.

Approximately the second half of the semester's work in German 1 is covered. (German 1a and 1b are equivalent to German 1.)



**2 (GERM 103) ADVANCED ELEMENTARY GERMAN (5)**

*Five class hours and two lab hours per week. Prerequisite: German 1 with a passing grade, or completion of German 1b with a passing grade; or assignment by the Foreign Language Department on the basis of the Foreign Language Placement Test in German.*

Continuation of work begun in German 1, with continued practice in listening, speaking, reading (of more difficult textual material) and writing. (See "Language Laboratory Requirement" above.)

**2a (GERM 104) ADVANCED ELEMENTARY GERMAN (3)**

*May be offered either for eight weeks on a daily basis plus two lab hours, or in a semester-long program for three class hours and one lab hour per week. Prerequisite: German 1 or 1b.*

Approximately the first half of the semester's work in German 2 is covered.

**2b (GERM 105) ADVANCED ELEMENTARY GERMAN (3)**

*May be offered either for eight weeks on a daily basis plus two lab hours, beginning at mid-term, or in a semester-long program for three class hours and one lab hour per week. Prerequisite: German 2a or equivalent.*

Approximately the second half of the semester's work in German 2 is covered. (German 2a and 2b are equivalent to German 2.)

**3 (GERM 106) INTERMEDIATE GERMAN (5)**

*Five class hours and one lab hour per week. Prerequisite: German 2 with a passing grade, or assignment by the Foreign Language Department on the basis of the Foreign Language Placement Test in German.*

Reading of modern writers, advanced grammar and syntax; study of idioms; study of vocabulary through cognates, derivatives and word building.

**3a INTERMEDIATE GERMAN (3)**

*May be offered either for eight weeks on a daily basis plus two lab hours, or in a semester-long program for three class hours and one lab hour per week. Prerequisite: German 2 or 2b.*

Approximately the first half of the semester's work in German 3 is covered.

**3b INTERMEDIATE GERMAN (3)**

*May be offered either for eight weeks on a daily basis plus two lab hours, beginning at mid-term, or in a semester-long program for three class hours and one lab hour per week. Prerequisite: German 3a or equivalent.*

Approximately the second half of the semester's work in German 3 is covered. (German 3a and 3b are equivalent to German 3.)

**4 (GERM 107) ADVANCED INTERMEDIATE GERMAN (3)**

*Three class hours and one lab hour per week. Prerequisite: German 3 with a passing grade, or assignment by the Foreign Language Department on the basis of the Foreign Placement Test in German.*

More time and attention are devoted to reading; texts are by German authors, beginning with Goethe to recent times. Study of word families, derivatives, compounds, idioms; practice of patterns; aural practice.

**8a-8b (GERM 201-202) GERMAN CONVERSATION (2-2)**

*Two class hours and one lab hour per week. Prerequisites: 8a - Successful completion of two semesters of college-level work in German; 8b - Successful completion of three semesters of college-level work in German. Native speakers not eligible.*

Conversation based upon German customs, manners, mores, history, newspapers, periodicals, plays and short stories. (May be repeated for credit.)

**25a-25b (GERM 115-116) READINGS IN GERMAN LITERATURE (3-3)**

*Three class hours per week. Prerequisites: 25a - German 4; 25b - German 25a.*

Oral and written composition, class reading of works of German literature, extensive collateral reading of varied types of German literature and study of a review of grammar. (May be repeated for credit.)

**30 (GERM 520) INDIVIDUAL READING (1-2)**

*One conference period per week or oral report. Prerequisite: Evaluation of previous preparation, usually at least German 4. Minimum requirements: 54 hours of reading for each unit granted. Credits are based on the reading accomplished by each student.*

Modern books or recent periodicals. The student's preference determines largely the choice of the reading material. (May be repeated for credit.)

**48 (GERM 580) SELECTED TOPICS IN GERMAN (1-3)**

*Hours by arrangement.*

Selected topics in German not covered by regular catalog offerings. Course content and unit credit to be determined by the Director of the Language Arts Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

**49 (GERM 590) SPECIAL PROJECTS (1-2)**

*Hours by arrangement. Prerequisite: 3.0 GPA in subject field.*

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

**100a (GERM 800) CONVERSATIONAL GERMAN, ELEMENTARY (2) (Credit/No Credit)**

*Three class hours per week.*

A practical course in the German language approached by way of conversation. Intensive drill in the patterns and idioms of daily speech is supported with sufficient grammar to give flexibility in the spoken language. May be considered an excellent preparatory course for students who have not taken a foreign language before. (This course will not fulfill language requirement at California State Colleges or at the University of California.) (May be repeated for credit.)

**When student demand is light, German 100b, 100c, and 100d may be offered as 1.5 hour modules.**

**100b (GERM 801) CONVERSATIONAL GERMAN, ADVANCED ELEMENTARY (2) (Credit/No Credit)**

*Three class hours per week. Prerequisite: German 100a or equivalent.*

Further work in conversation following the model of German 100a. (This course will not fulfill language requirement at California State Colleges or at the University of California.) (May be repeated for credit.)

**100c (GERM 802) CONVERSATIONAL GERMAN, INTERMEDIATE (2) (Credit/No Credit)**

*Three Class hours per week. Prerequisite: German 100b or equivalent.*

More advanced work in German following the model of German 100a. (This course will not fulfill language requirement at California State Colleges or at the University of California.) (May be repeated for credit.)

**100d (GERM 803) CONVERSATIONAL GERMAN, ADVANCED INTERMEDIATE (2) (Credit/No Credit)**

*Three class hours per week. Prerequisite: German 100c or equivalent.*

Further advanced work in conversation following the model of German 100c. (This course will not fulfill requirement at California State Colleges or at the University of California.) (May be repeated for credit.)

## Guidance

**5 DECISIONS (1)**

*Three lecture hours per week for six weeks.*

Provides students with opportunities to develop the skills involved in making valid decisions and choices, establishing personal values, and investigating personal growth factors and behavior patterns affecting studying and peer relationships. Satisfies elective requirement for the A.A. degree and G.E. transfer. (May be repeated for credit.)

**8 WOMEN'S RE-ENTRY (1-3) (Credit/No Credit)**

*Three class hours per week for eight weeks for one unit of credit. Discussion group two hours per week is optional.*

Designed for women whose education has been interrupted. Areas covered include analysis of present abilities and interests, investigation of new directions and objectives, investigation of career opportunities, development of college-level study skills, guidance and counseling for meeting new goals. (Identical to Learning Center 80.) (May be repeated for credit.)

**10 INTRODUCTION TO COLLEGE (2)**

*Two hours a week. Open to all students but strongly recommended for entering freshmen enrolled in general courses with an "undecided" major, or for students who desire to verify their career and educational choice.*

Acquaintance with campus facilities and activities, improvement of study habits and skills, educational planning toward a realistic, meaningful goal. Career planning to discover potential talents by means of tests measuring new interests and aptitudes.

**11 ORIENTATION TO PEER COUNSELING (1-3) (Credit/No Credit) (Formerly Orientation to Student Services)**

*Three lecture hours per week for the first 8 weeks, followed by lectures and field work by arrangement.*

An introduction to the functions of Student Services, including counseling/advising, guidance and student activities. Prepares the student for a position as a Student Assistant Counselor-Advisor Aide/Peer Counselor-Advisor Aide. Explores opportunities for career choices in Student Services. (May be repeated for credit.)

**30 CAREER EXPLORATION (1) (Credit/No Credit)**

*Three lecture hours and 1 to 3 lab hours per week for 6 weeks by arrangement.*

A variety of tests are given to appraise aptitudes, interests, personal adjustments and special abilities, and to assist students in making effective educational and vocational plans. Designed for students who are undecided about career goals and who wish to explore their interests, abilities and values in a small-group setting.

**31 PERSONALIZING CAREER OBJECTIVES (1)**  
(Credit/No Credit)

*Lecture, lab and individual study by arrangement.*

An open-entry, individualized career exploration course designed basically for the mature student who prefers to work independently. Course work may be completed at the student's own pace, and consists of a variety of tests to appraise aptitudes, interests and special abilities.

**48 SELECTED TOPICS (1-3)**

*Hours by arrangement.*

Selected topics in Guidance not covered by regular catalog offerings. Course content and unit credit to be determined in relation to community-student need, and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

## Health Science

**1 GENERAL HEALTH SCIENCE (2)**

*Two class hours per week. Health Science 1 or equivalent required for A.A. degree (minimum 2 units. Two units of Health Science 2a – 2i are equivalent to Health Science 1.)*

A survey of today's most prevalent health problems, including such topics as heart disease, cancer, venereal disease, birth control, drug abuse, and emotional disorders. Discussions focus primarily on prevention, detection, and treatment of personal health problems and their social implications. (This course satisfies the California teaching credential requirement.)

**2a HUMAN REPRODUCTION (1)**

*Two lecture hours per week for eight weeks. (Two units of Health Science 2a – 2i are equivalent to Health Science 1.)*

Overview of the reproductive processes of life forms, with emphasis on the biological aspects of human reproduction. Designed to provide a factual basis for an understanding of the emotional and behavioral aspects of sex. (This course partially satisfies the California teaching credential requirement.)

**2b NUTRITION AND FITNESS (1)**

*Two lecture hours per week for eight weeks. (Two units of Health Science 2a – 2i are equivalent to Health Science 1.)*

Principles of nutrition and exercise as contributing factors to total fitness. Provides tools for the student to analyze his/her diet and effect positive changes in eating habits and physical activities to improve mental and physical well-being.

**2c COMMUNICABLE DISEASE (1)**

*Two lecture hours per week for eight weeks. (Two units of Health Science 2a – 2i are equivalent to Health Service 1.)*

Study of some of the most prevalent and debilitating communicable diseases: causes, social implications, methods of detection, treatment and prevention.

**2d ENVIRONMENTAL HEALTH (1)**

*Two lecture hours per week for eight weeks. (Two units of Health Science 2a – 2i are equivalent to Health Science 1.)*

Principles of ecology and critical appraisal of man's effect on the environment. Discussion of several types of environmental hazards and pollutants, with emphasis on how they affect man's health.

**2e DRUGS: THEIR USE AND MISUSE (1)**

*Two lecture hours per week for eight weeks. (Two units of Health Science 2a – 2i are equivalent to Health Science 1.)*

Study of the general categories of drugs; discussion of the beneficial and harmful effects that various and specific drugs have upon the individual and society. (This course partially satisfies the California teaching credential requirement.)

**2f BIRTH DEFECTS (1)**

*Two lecture hours per week for eight weeks. (Two units of Health Science 2a – 2i are equivalent to Health Science 1.)*

Study of the principles of human genetics and prenatal development, with an overview of many severe hereditary and environment-induced defects.

**2g EMOTIONAL HEALTH (1)**

*Two lecture hours per week for eight weeks. (Two units of Health Science 2a – 2i are equivalent to Health Science 1.)*

Concepts of personality development, emotional health, and emotional disorders, with emphasis on the positive aspects of developing and maintaining emotional stability.

**2h HEART DISEASE AND CANCER (1)**

*Two lecture hours per week for eight weeks. (Two units of Health Science 2a – 2i are equivalent to Health Science 1.)*

Study of the two leading causes of death in the U.S. today, taking into account their causes, danger signals, methods of prevention, detection and treatment.

## 2i CURRENT HEALTH ISSUES (1)

*Two lecture hours per week for eight weeks. (Two units of Health Science 2a – 2i are equivalent to Health Science 1.)*

An objective look at the medical, legal, and ethical aspects of the most provocative, controversial health issues making today's news headlines.

## 9 NUTRITION (3)

*Three lecture hours per week.*

Basic concepts of nutrition and their relationship to health of people of all ages, with application to the selection of foods to meet nutritional needs of the individual. (This course is identical to Consumer Arts and Sciences 9, and may be used to waive Health Science 2b.)

## 11 HOLISTIC HEALTH (2)

*Two lecture hours per week.*

A practical survey course designed to elevate the student's personal awareness of those forces within and around him which variously enhance or undermine the experience of wellbeing. Includes direct experience of a variety of health-promoting techniques (yoga, massage, breath exercises, visualization, etc.), as well as information regarding such healing practices as acupuncture, biofeedback, and chiropractic. (Will satisfy 1 unit of the Health Science General Education requirement for an A.A. degree.)

## 47 COOPERATIVE EDUCATION (1-4) (Credit/No Credit)

Work experience in a field related to a career goal, supplemented by individual counseling from an instructor-coordinator. (See Page 130.)

## 48 SELECTED TOPICS IN HEALTH SCIENCE (1-3)

*Hours by arrangement.*

Selected topics in Health Science not covered by regular catalog offerings. Course content and unit credit to be determined by the Math/Science Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

## 49 SPECIAL PROJECTS (1-2)

*Hours by arrangement. Prerequisite: 3.0 GPA in subject field.*

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after

successfully completing at least two college-level courses in the subject field. (Note: Students may receive credit for only one Special Project per semester.)

# History

(See Also Humanities)

## 4a (100) HISTORY OF WESTERN CIVILIZATION (3)

*Three class hours per week.*

The rise and decline of the civilization of the ancient world, the rise of Christianity, the growth and decline of Medieval society, the Renaissance, the Reformation and the opening of the modern world.

## 4b (101) HISTORY OF WESTERN CIVILIZATION (3)

*Three class hours per week.*

The rise of modern Europe: the Enlightenment, the French Revolution and the growth of Liberalism. The emergence of modern society; economic problems of industrialization, development of modern ideologies, and the World Wars and international experiments of the 20th Century. (History 4b-4c (six units) fulfills American Institutions requirement.)

## 4c (102) HISTORY OF AMERICAN CIVILIZATION (3)

*Three class hours per week.*

The colonial settlement of North America, the Enlightenment, the age of revolution and the growth of democracy, the problems of industrialization, the emergence of modern society, the effects of the expansion of the 19th and 20th Centuries upon the culture of America and the role of the United States in the modern world. (History 4a-4c (six units) fulfills American Institutions requirement.)

## 5 (110) HISTORY OF ENGLAND (3)

*Three class hours per week.*

A survey course, including in its scope the more important political, constitutional, economic, social and cultural phases of the history of the English people.

## 6a (400) AFRICAN CIVILIZATIONS (3)

*Three class hours per week.*

The period prior to 1800 — the sources of African history, Africa in ancient times, the spread of Islam, the era of empires and city-states, Africa and the first period of European expansion, kingdoms of the Savannah and forest, coastal tropical Africa and the Atlantic world.

**6b (401) AFRICAN CIVILIZATIONS (3)**

*Three class hours per week.*

The period after 1800 — African civilizations and cultures, political reorganizations, developments in Northern Africa, Nineteenth Century Jihads, interaction of Africa and Europe, the European scramble for Africa and its partitioning, consolidation of colonial control, and the rise of African nationalism.

**8a (410) HISTORY OF AMERICAS (3)**

*Three class hours per week.*

General survey of the history of North and South America, from the times of the pre-Columbian Indian civilizations, through the European conquests, to the ages of the revolutions against the European colonizing powers. (Not offered in 1978-79.)

**8b (411) MODERN LATIN AMERICA (3)  
(Formerly History of Americas)**

*Three class hours per week.*

General survey of the history of North and South America, from about 1830 until the present. Emphasis on the larger countries of the Western Hemisphere, and the development during the crucial period which began with the outbreak of World War II and has continued until contemporary times. (Not offered in 1978-79.)

**11 (210) ECONOMIC HISTORY OF THE UNITED STATES (3)**

*Three class hours per week.*

Origin and development of the American economy from colonial times to the present. Includes the basis for industrial growth, land and resource use, the transportation revolution, the development of money and banking machinery, changing trade patterns, the rise of organized labor, the economic role of government. (The course is identical to Economics 11; with History 17a or 17b, fulfills American Institutions requirement.)

**12 (120) ECONOMIC HISTORY OF EUROPE (3)**

*Three class hours per week.*

The roots of modern economic society traced to their European origins. The rise of mercantilism, the market system, and modern industrialism sketched against the ancient and medieval background. Attention given to 20th Century inter-war and postwar developments, including recent movements toward European economic union. (This course is identical to Economics 12.)

**17a (200) UNITED STATES HISTORY (3)  
(Formerly American History)**

*Three class hours per week.*

A survey of English colonization along the Atlantic Coast, the westward expansion of the colonists, the Revolution, the formation of the Constitution, the Federalist and Jeffersonian systems, the reign of Andrew Jackson, the slavery issue and Civil War. Economic, political, social and cultural developments of the period are included.

**17b (201) UNITED STATES HISTORY (3)  
(Formerly American History)**

*Three class hours per week.*

Continues the work of 17a, developing the reconstruction period, industrial expansion, social and economic development, and the foreign policies of the U.S. through World War II. (History 17a-17b (6 units) fulfills American Institutions requirement.)

**20a-20b (130-131) TWENTIETH CENTURY EUROPE (3-3)**

*Three class hours per week.*

**20a** — History after 1870, the year of the unification of Germany and Italy, and the events which ushered in the present period of European history. Covers social and intellectual, as well as political and military affairs, through World War I to the settlements of 1919. **20b** — History of Europe after the first World War. The brief optimism of the 1920's, followed by the depression and period after World War II. (Not offered in 1978-79.)

**21 (310) HISTORY OF SAN MATEO COUNTY (3)**

*Three class hours per week.*

Survey of the County's development to the present. The natural setting, discovery and exploration, mission-rancho era, establishment of county government, pioneers, advent of railroads, lumbering, industry, growth of Bayside and Coast-side communities, airport, industrial parks, population shifts, voting trends. (History 21 satisfies the requirement in California State and Local Government.)

**22 (300) CALIFORNIA HISTORY (3)**

*Three class hours per week.*

A survey of major trends in California's rapid growth, including the Indian culture, discovery and Spanish colonization, the mission-rancho era, the American take-over, the Gold Rush and vigilante eras, the constitutional, political, and economic growth of the State, and contemporary social and economic problems as the most populous state in the Union. (History 22 satisfies the requirement in California State and Local Government.)

**24 (230) AMERICAN FOREIGN POLICY (3)**

*Three class hours per week.*

Historical inquiry into the background of major problems in



foreign policy of our day. Special attention given to the period since World War II. (With History 17a or 17b, fulfills American Institutions requirement.) (Not offered in 1978-79.)

**25 (320) THE AMERICAN WEST (3)**

*Three class hours per week.*

The movement of Americans west of the Mississippi River, with an emphasis on fur trading, cattle raising, farming, mining, railroad building, community building. Indian problems, and the character and image of the West and Westerners. (With History 17a or 17b, fulfills American Institutions requirement.)

**26 (220) 20th CENTURY AMERICAN HISTORY (3)**

*Three class hours per week.*

Major economic, political, social and intellectual developments of the United States since the 1920's. (With History 17a or 17b, fulfills American Institutions requirement.)

**28 (280) WOMEN IN AMERICAN HISTORY (3)**

*Three class hours per week.*

A survey of the role played by American women from colonial times to the present. The part played by American women of different racial and local origins is explored in depth. Attitudes of women, as well as attitudes about women in America. (With History 17a or 17b fulfills American Institutions requirement.)

**30 (290) THE AMERICAN LABOR MOVEMENT (3)**

*Three class hours per week.*

A survey of the history, structure, and institutions of the organized labor movement in the United States, covering developments from the colonial era to the present, with the greatest emphasis upon trends since the Civil War. Particular attention paid to labor's role in California and in the Bay Area. (Identical to Labor Studies 10; with History 17a or 17b, fulfills American Institutions requirement.)

**32 (330) THE SOUTH, OLD AND NEW IN AMERICAN HISTORY (3)**

*Three class hours per week.*

A survey course designed to acquaint the student with the 15 former slave states. Introduces the student to their history from the Colonial period through the National period, the Civil War and Reconstruction, Populism and the "New South", the 20th Century, Southern industrialization, the New Deal, the revolution of the Civil Rights Movement and the election of Jimmy Carter. (With History 17a or 17b, fulfills the American Institutions requirement.)

**33 (245) THE AFRO-AMERICAN IN U.S. HISTORY (3)**

*Three class hours per week. Recommended: History 17a.*

Social, economic and political facts as they relate to the Afro-American. Race relations are analyzed, with special emphasis on the history of the Afro-American. (With History 17a or 17b, fulfills American Institutions requirement.)

**35 (270) CIVIL WAR AND RECONSTRUCTION (3)**

*Three class hours per week. Recommended: History 17a or 17b.*

Survey and analysis of the political, social and economic problems of the North and South during the ante-bellum, Civil War and Reconstruction eras. (With History 17a or 17b, fulfills the American Institutions requirement.)

**44 (420) HISTORY OF THE FAR EAST (3)**

*Three class hours per week.*

Introductory survey of the political, social and economic history of the countries of the Far East. The response of Asia to the impact of the western world. An analysis of contemporary trends and problems with particular reference to China and Japan. The historical developments of India, Pakistan and the countries of Southeast Asia. (Not offered in 1978-79.)

**45 (140) HISTORY OF MODERN RUSSIA (3)**

*Three class hours per week.*

Careful analysis of the development of Russia from a loose federation of city-states into an autocratic nation and a modern Soviet state; study of the political, economic and cultural development of 20th Century Russia. (Not offered in 1978-79.)

**46 (150) MODERN GERMANY (3)**

*Three class hours per week.*

Impact of the French Revolution and the Napoleonic Wars on Germany; The German Confederation; liberalism and nationalism; the Revolutions of 1848; Bismarck and German unification; the German Empire; William II and the First World War; the Weimar Republic; the Nazi era; World War II and Nazi collapse; the two Germanies; German character and historical heritage. (Not offered in 1978-79.)

**48 (580) SELECTED TOPICS IN HISTORY (1-3)**

*Hours by arrangement.*

Selected topics in History not covered by regular catalog offerings. Course content and unit credit to be determined by the Social Science Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture or lecture/laboratory class.

**49 (590) SPECIAL PROJECTS (1-2)**

*Hours by arrangement. Prerequisite: 3.0 GPA in subject field.*  
Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

**50 (810) AMERICAN HISTORY AND CURRENT WORLD AFFAIRS (3)**

*Three class hours per week.*

A study of current issues, events and institutional changes in the United States through the analysis of their geographic and historical context, and their relation to events and people at home and abroad. Lecture, films, library, and small discussion groups. (Fulfills American Institutions requirements for students working toward the Associate in Arts degree and not planning to transfer to a four-year institution.) May be repeated for credit.

**99 (800) HISTORICAL GEOGRAPHY (3)**

*Three class hours per week.*

Analysis of selected problems from the historical geography of the United States. Emphasis is on small discussion groups. Extensive use of audio-visual materials. (Fulfills American Institutions requirement for students working toward the Associate in Arts degree.) (Identical to Geography 99.) (Not offered in 1978-79.)

## Horticulture

**47 COOPERATIVE EDUCATION (1-4)  
(Credit/No Credit)**

Work experience in a field related to a career goal, supplemented by individual counseling from an instructor-coordinator. (See Page 130.)

**48 SELECTED TOPICS IN HORTICULTURE (1-3)**

*Hours by arrangement.*

Selected topics in Horticulture not covered by regular catalog offerings. Course content and unit credit to be determined by the Health and Service Careers Division in relation to community-student need and/or available staff. May be offered as seminar, lecture, or lecture/laboratory class.

**49 SPECIAL PROJECTS (1-2)**

*Hours by arrangement. Prerequisite: 3.0 GPA in subject field.*  
Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

## Horticulture—Ornamental

**90a-90b PEST CONTROL: HORTICULTURE ENTOMOLOGY (2-2)**

*Three lecture hours per week.*

Study of the common insect and mite pests which attack horticultural plants in the Bay Area. Identification, classification, life cycles and the latest methods of control.

**90c-90d PEST CONTROL: HORTICULTURE PLANT DISEASES (2-2)**

*Three lecture hours per week.*

Study of the common disease-causing fungi, bacteria, physiological, nematode and virus pests which attack horticultural plants in the Bay Area. Identification, classification, life cycle and the latest methods of control.

**90e PEST CONTROL: INSECTICIDES, FUNGICIDES, EQUIPMENT (2)**

*Three lecture hours per week.*

History and development of pesticides, pest control equipment, insecticides, fungicides, disinfectants and nematicides. Soil fumigants, composition, formulation, uses, compatibilities. California Agriculture Code and pest-control operator's license examination.

**90f PEST CONTROL: WEEDS AND RODENTS (2)**

*Three lecture hours per week.*

Identification, dissemination methods and control of principal garden, lawn and turf weeds, and weedy grasses. Herbicides, their characteristics and uses; brush control. Chief rodent and other animal pests of landscaped areas, and control methods.

**91a-91b GENERAL ORNAMENTAL HORTICULTURE (2-2)**

*Three lecture hours per week.*

**91a** — Soils, manures and fertilizers, lawn establishment and

turf management. **91b** — Plant propagation, pruning, choice of plant tools and machinery, insecticides, fungicides and weed killers.

**93 HORTICULTURE SOILS AND PLANT GROWING (2)**

*Three lecture hours per week.*

Fundamental principles and soils, soil management, fertility and plant nutrition. Soil types, origins, characteristics; biological relationships. Commercial and natural fertilizers; soil conditioners; growing media, crop rotation, and watering.

**94 PLANT PROPAGATION AND NURSERY PRACTICE (2)**

*Three lecture hours per week.*

Principles and practices of propagating plants for sale and for landscape use, including laboratory work in making cuttings, grafting and budding, potting, canning. Visits to wholesale and retail nurseries. Seedage, cuttage, layerage, plant breeding and improvement.

**95a-95b LANDSCAPE TREES AND SHRUBS (2-2)**

*Three lecture hours per week.*

**95a** — Tree classification, description, nomenclature, morphology. The study in class of trees commonly used in California parks and gardens. Emphasis on plant identification. **95b** — The study of shrubs and ground covers commonly used in California. (Identical to Biology 18a-18b.)

**96a-96b LANDSCAPE GARDEN CONSTRUCTION (2-2)**

*Three lecture hours per week.*

Principles of garden construction with emphasis on design appreciation and minimum maintenance. Lien laws and contractors' license laws. Estimates and bills of quantity. Design and installation of sprinkler systems. Visits to outstanding landscape projects.

**97a-97b ARBORICULTURE: SHRUBS AND FRUIT (2-2)**

*Three lecture hours per week.*

**97a** — Principles and practices of arboriculture emphasizing care and maintenance of landscape trees. **97b** — The study of the training and management of fruit trees, bush fruits and ornamental shrubs.

**98a-98b GLASSHOUSE MANAGEMENT AND CROPS (2-2)**

*Three lecture hours per week.*

**98a** — Study of greenhouses, lathhouses and nurseries and the materials used in their construction. Interior layouts. Ventilation, humidity and temperature control. **98b** — The propagation and culture of roses, carnations, chrysanthemums, orchids, pot plants and other glasshouse crops. Pest and disease control.

COLLEGE OF SAN MATEO  
SAN MATEO, CALIF.

78-79

## Horticulture—Environmental

**110a-110b PLANT AND LANDSCAPE (3-3)**

*Two lecture and three lab hours per week.*

**110a** — Growth habits, cultural requirements and landscape uses of ornamental trees adapted to the climates of California. Proper plant and maintenance techniques. (Fall only.) **110b**

— Growth habits, cultural requirements and landscape; uses of ornamental shrubs and ground covers adapted to the climates of California. Proper planting and maintenance techniques. (Spring only.)

**111 LANDSCAPE MANAGEMENT (3)**  
**(Formerly Landscape Maintenance and Equipment)**

*Two lecture and three lab hours per week.*

Maintenance and management of turf areas, including golf courses, athletic fields, parks and residential areas. Cultural requirements of trees, shrubs, vines, annuals and ground cover. Operation of landscape maintenance equipment. (Fall only.)

**112 PLANT GROWING (3)**

*Two lecture and three lab hours per week.*

Soil, plant and fertilizer relationship. The study of plant propagation, nursery practice and greenhouses. Soil, plant and fertilizer relationships. Practical experience in growing plants in the greenhouse. (Identical to Biology 19.)

**113 LANDSCAPE CONSTRUCTION AND EQUIPMENT (3)**

*Two lecture and three lab hours per week.*

Planting and construction techniques; design, installation and maintenance of sprinkler systems; cost finding and estimating for the landscape trades, including legal aspects of contracting. (Assists students in preparing for the Landscape Contractor's License Examination — C27.) (Spring only.)

**114 INSECTS, WEEDS, DISEASES AND RODENT CONTROL (3)**

*Two lecture and three lab hours per week.*

Symptoms, identification and methods of control of the principal diseases, pests and weeds important in California landscape industry. Chemical, biological and cultural control and prevention. (Spring only.)

**115 GARDEN DESIGN (3)**

*Three lecture and three lab hours per week.*

Introductory graphics, drafting, environmental planning and design for the garden landscape. (Fall only.)

**116 FLORISTRY (3)**

*Two lecture and three lab hours per week.*

The study of floral design using flowers and foliage as related to the florist's style of arrangement. The student is taught the history of floral design, the care and conditioning of cut flowers and foliage.

**117 FLORISTRY, ADVANCED (3)**

*Two lecture and three lab hours per week. Prerequisites: Floristry 116 or equivalent.*

An advanced study of commercial floral designs, including corsages, wedding bouquets, party decor and funeral tributes. Emphasis on the development of individual creative design skills.

**118 INTRODUCTORY PLANT SCIENCE (3)**

*Three lecture hours per week.*

Introduction to scientific principles of higher plant structure, function, and reproduction to serve as a basis for further practical course work in field of Horticulture. (Identical to Biology 8.)

**119 RETAIL NURSERY AND FLOWER SHOP PRACTICES (3)**

*(Formerly Retail Nursery and Flower Shop Management)*

*Two lecture and three lab hours per week.*

Practical course of procedures used in the operation of retail nursery and florist shop. Emphasis on the evaluation of nursery stock and cut flowers and on marketing, shop records, shipping, buying, employee relations and quality control of flowers, plants and floral pieces.

**120 LANDSCAPE DESIGN (3)**

*Two lecture and three lab hours per week. Prerequisite: Horticulture 115 or equivalent.*

Advanced graphics techniques, environmental planning and design, planting, structures, engineering, materials, and history of the landscape. (Identical to Architecture 120.) (Spring only.)

## Horticulture—Vocational Gardening

**130a-130b VOCATIONAL AND PLANT MATERIAL (1-1)**

*Three lecture hours per week.*

Principles of plant classification and nomenclature. The study of stems, roots, leaves and flowers. Floral families. The

identification of plant materials used in California gardens and landscaping. **130a** — Emphasizes the landscape use of trees; **130b** — Emphasizes the landscape use of shrubs and ground covers.

**132a-132b GENERAL VOCATIONAL GARDENING (1-1)**

*Three lecture hours per week.*

**132a** — Garden and landscape management with emphasis on soils, fertilizers and soil fertility, leading to the culture of ornamental and sports turf. Culture of annuals and perennials.

**132b** — Garden and landscape management with emphasis on pruning and training ornamental trees, fruit trees and shrubs. Horticultural tools, machines and pesticides.

**135a-135b VOCATIONAL LANDSCAPE GARDENING (1-1)**

*Three lecture hours per week.*

**135a** — Basic principles of landscape design and design appreciation. Irrigation system design and repair. Visits to outstanding landscapes. **135b** — Landscape construction. Patios, decks, pools, concrete and brickwork. Estimating techniques. Law related to the landscape industry.

## Humanities

*(See also History and Philosophy)*

**1 (100) INTRODUCTION TO HUMANITIES: GREECE TO RENAISSANCE (3)**

*Three class hours per week.*

The History and Philosophy Departments explore the major cultural and intellectual movements of Western Civilization from Greece to the Renaissance. The development of literature, art, architecture, and music are considered, along with their relationship to mythological, religious, and scientific attitudes towards man, nature, and God.

**2 (101) INTRODUCTION TO HUMANITIES: REFORMATION TO PRESENT (3)**

*Three class hours per week.*

The History and Philosophy Departments explore the major cultural and intellectual movements of Western Civilization from the Reformation to the present. The development of literature, art, architecture, and music are considered, along with their relationship to mythological, religious, and scientific attitudes towards man, nature, and God.

**25 (200) TECHNOLOGY, CONTEMPORARY SOCIETY,  
AND HUMAN VALUES (3)**

Three class hours per week.

A humanistic analysis of the impact of contemporary technology on the environment, economic and political systems, warfare, education, philosophy, behavior control, and human relations. Reasons for the rise of technological civilization in the West, the phenomenology of modern technology, and the problem of control are examined.

**48 (580) SELECTED TOPICS IN HUMANITIES (1-3)**

Hours by arrangement.

Selected topics in Humanities not covered by regular catalog offerings. Course content and unit credit to be determined by the Social Science Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

**49 (590) SPECIAL PROJECTS (1-2)**

Hours by arrangement. Prerequisite: 3.0 GPA in subject field.

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

## Italian

**100a (ITAL 800) CONVERSATIONAL ITALIAN, ELEMEN-  
TARY (2) (Credit/No Credit)**

Three class hours per week.

Intensive drill in the patterns and idioms of daily speech is supported with sufficient grammar to give flexibility in the spoken language. (This course will not fulfill requirement at California State Colleges or at the University of California.) (May be repeated for credit.)

**When student demand is light, Italian 100b and 100c may be offered at 1.5 hour modules.**

**100b (ITAL 801) CONVERSATIONAL ITALIAN, AD-  
VANCED ELEMENTARY (2) (Credit/No  
Credit)**

Three class hours per week. Prerequisite: Italian 100a or equivalent.

Further work in conversation following the model of Italian

100a. (This course will not fulfill language requirement at California State Colleges or at the University of California.) (May be repeated for credit.)

**100c (ITAL 803) CONVERSATIONAL ITALIAN,  
INTERMEDIATE (2) (Credit/No Credit)**

Three class hours per week. Prerequisite: Italian 100b or equivalent.

More advanced work in conversation following the model of Italian 100b. (This course will not fulfill language requirement at California State Colleges or at the University of California.) (May be repeated for credit.)

**100d (ITAL 804) CONVERSATIONAL ITALIAN, AD-  
VANCED INTERMEDIATE (2)  
(Credit/No Credit)**

Further advanced work in conversation following the model of Italian 100c. (This course will not fulfill language requirement at California State Colleges or at the University of California.) (May be repeated for credit.)

## Japanese

**Language Laboratory and Listening Requirements** — Students enrolled in certain courses in foreign language are required to make use of the language laboratory as prescribed by each department. Limitation, response, and independent practice are integral features of study of a foreign language at the College.

**1 (JAPA 100) ELEMENTARY JAPANESE (5)**

Five class hours and one lab hour per week.

Principles of basic patterns of study of the writing system. Emphasis is given to oral expression, reading, and written forms of Japanese.

**1a (JAPA 101) ELEMENTARY JAPANESE (3)**

Three class hours plus one lab hour per week.

Approximately half of the semester's work in Japanese 1 is covered in this course.

**1b (JAPA 102) ELEMENTARY JAPANESE (3)**

Three class hours plus one lab hour per week. Prerequisite: Japanese 1a or equivalent.

Approximately the second half of the semester's work in Japanese 1 is covered. (Japanese 1a and 1b are equivalent to Japanese 1.)



**2 (JAPA 103) ADVANCED ELEMENTARY JAPANESE (5)**

Five class hours and one lab hour per week. Prerequisite: Japanese 1 or equivalent.

Further study of basic patterns of Japanese.

**2a (JAPA 104) ADVANCED ELEMENTARY JAPANESE (3)**

Three class hours plus one lab hour per week. Prerequisite: Japanese 1 or 1b.

Approximately half of the semester's work in Japanese 2 is covered in this course.

**2b (JAPA 105) ADVANCED ELEMENTARY JAPANESE (3)**

Three class hours plus one lab hour per week. Prerequisite: Japanese 2a or equivalent.

Approximately the second half of the semester's work in Japanese 2 is covered. (Japanese 2a and 2b are equivalent to Japanese 2.)

## Journalism

**1 INTRODUCTION TO JOURNALISM (3)**

Three class hours per week.

A study of the historical background and modern functioning of the press (newspaper, radio, magazine, television) in a democratic society, and the values and shortcomings of each. The rights and duties of journalists, and the legal limits of the liberty of the press are studied.

**2 NEWSWRITING (3)**

Two lecture and two lab hours per week. Prerequisite: Journalism 1.

Techniques of news gathering, judging news values, and writing the news story. For practical experience, the students write for the college paper, "The San Matean," thus preparing them for future newspaper work.

**15 NEWSPAPER PRODUCTION (2)**

Four class hours per week. Prerequisite: Journalism 2 (may be taken simultaneously).

Production of the student newspaper, "The San Matean." Discussion and criticism of staff organization and newspaper content. (May be repeated for credit.)

**16 MAGAZINE PRODUCTION (2)**

Four class hours per week.

Production of the student magazine, "Pendulum." Discussion

of techniques of publishing and production especially applied to school publications. (May be repeated for credit.)

**48 SELECTED TOPICS IN JOURNALISM (1-3)**

Hours by arrangement.

Selected topics in Journalism not covered by regular catalog offerings. Course content and unit credit to be determined by the Language Arts Division in relation to community-student need and/or available staff. May be offered a seminar, lecture, or lecture/laboratory.

**49 SPECIAL PROJECTS (1-2)**

Hours by arrangement. Prerequisite: 3.0 GPA in subject field.

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

## Labor Studies

**10 (100) THE AMERICAN LABOR MOVEMENT (3)**

Three class hours per week.

A survey of the history, structure, and institutions of the organized labor movement in the United States, covering developments from the colonial era to the present, with the greatest emphasis upon trends since the Civil War. Particular attention is given to labor's role in California and the Bay Area. (Identical to History 30; with Hist. 17a or 17b, fulfills American Institutions requirement.)

**11 (110) LEGAL FOUNDATIONS: LABOR LAW AND MINORITY RIGHTS (3)**

Three class hours per week.

The development of the basic legal framework and doctrines governing labor-management relations, and the rights of minorities in the context of the labor movement.

**12a (120) LABOR RELATIONS LAW (3)**

Three class hours per week. Prerequisite: Labor Studies 11.

An examination of the legal and administrative policies and practices followed in establishing and maintaining collective bargaining relationships. Emphasis on national labor-management relations law in the private sector, with added discussion of emerging labor relations in the public sector.

**14 (140) GRIEVANCE HANDLING AND ARBITRATION (3)**

*Three class hours per week.*

A practical, applied study of grievance handling as a continuation of the collective bargaining process, emphasizing arbitration as the final step in resolving grievances. Utilizes role-playing techniques of instruction.

**15 (150) RESPONSIBILITIES AND PSYCHOLOGY OF LEADERSHIP (3)**

*Three class hours per week.*

A non-technical exploration of interpersonal relationships affecting the ability of individuals to function effectively in leadership roles, with emphasis on understanding social behavior and group conflict. Role-playing techniques to demonstrate ways of handling problems related to the functions of leaders of unions and community groups.

**20 (200) LABOR AND POLITICS (3)**

*Three class hours per week.*

An historical survey of the philosophy, organization and activities of labor unions and their members in the American political process, with special consideration of contemporary aspects. Introduction to organized labor's interest and involvement in American politics, with emphasis on the relationship between labor's legislative-political goals and collective bargaining.

**48 (580) SELECTED TOPICS IN LABOR STUDIES (1-3)**

*Hours by arrangement.*

Selected topics in Labor Studies, not covered by regular catalog offerings. Course content and unit credit to be determined by the Social Science Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

**49 (590) SPECIAL PROJECTS (1-2)**

*Hours by arrangement. Prerequisite: 3.0 GPA in subject field.*

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

## Learning Center

**80 WOMEN'S RE-ENTRY (1-3)  
(Credit/No Credit)**

*Three class hours per week for eight weeks for one unit of credit. Discussion group two hours per week is optional.*

Designed for women whose education has been interrupted. Areas covered include analysis of present abilities and interests, investigation of new directions and objectives, investigation of career opportunities, development of college-level study skills, guidance and counseling for meeting new goals. (Identical to Guidance 8.)

**96 TUTORIALS (1-2)  
(Credit/No Credit)**

*A minimum of 40 hours' work for each unit of credit.*

Individual tutorial assistance or small group work with a tutor to fulfill the objectives of a student's course work in progress.

**97 TUTORING PRACTICUM (1 unit per 8 weeks)  
(Credit/No Credit)**

*Ten hours per week for eight weeks. Prerequisite: G.P.A. 3.00 in subject the student wishes to tutor.*

For students with demonstrated academic ability who wish to tutor individuals or small groups under staff supervision.

**98 TUTOR TRAINING (1 unit per 8 weeks)  
(Credit/No Credit)**

*Two lecture and two lab hours per week for eight weeks. Prerequisite: Minimum G.P.A. of 3.00 in subject which the student wishes to tutor and demonstration of competency.*

Orientation and training course for those conducting individual and small group tutoring in the CSM Learning Center. Introduction to group techniques and programmed materials. (May be repeated for credit.)

**99 STUDY SKILLS (2)  
(Credit/No Credit)**

*Five hours per week.*

Development of college-level reading and study skills, individualized instruction, group projects which enable the student to become more proficient in information acquisition and the learning process.

## Library Technology

### 1 INTRODUCTION TO LIBRARY RESOURCES (2)

Two hours per week.

Skill in the use of the Library with use of the card catalog, periodical indexes and reference sources emphasized. Help is given with the organization of term papers.

### 47 COOPERATIVE EDUCATION (1-4) (Credit/No Credit)

Designed for the student desiring work experience in a field related to a career goal, supplemented by individual counseling from an instructor-coordinator. (See Page 130.)

### 48 SELECTED TOPICS IN LIBRARY TECHNOLOGY (1-3)

Hours by arrangement.

Selected topics in Library work not covered by regular catalog offerings. Course content and unit credit to be determined by the Library division in relation to community-student need and/or available staff. May be offered as a seminar, lecture or lecture/laboratory class.

### 51 INTRODUCTION TO LIBRARY TECHNOLOGY (3)

Three class hours per week.

Introduction to the types of libraries (school, college, public and special) making a study of their services, functions and organizational patterns, job opportunities, salaries, benefits and working conditions. Library terminology and human relations in library work.

### 52 LIBRARY TECHNICAL PROCESSES (3)

Three class hours per week.

Introduction to acquisition work for books, periodicals, documents and recordings; processing of these materials from receipt to shelving and preparation of material for binding are discussed. Documents, report literature and special materials handling.

### 53 ELEMENTARY CATALOGING PROCEDURES (3)

Three class hours per week. Prerequisite: Library Tech. 51 and typing ability equivalent to at least one year of typing.

Examination of the card catalog, its organization and function. Special attention to filing and to typing headings on cards. Book catalogs are discussed, as well as the two major classification systems, with the resulting cataloging of some fiction and biography.

### 54 PUBLIC SERVICES (3)

Three class hours per week. Prerequisite: Library Tech. 51 or acceptable work experience.

Circulation procedures of books, periodicals, pamphlets, documents and services are examined. Employee-patron relationships and the philosophy of library service are explored.

### 55 NON-BOOK MATERIALS (3)

Three class hours per week.

Introduction to non-book materials and audio-visual equipment in libraries. Examination of audio installations and A-V facilities. Preparation of A-V materials and use of equipment.

### 56 SELECTING BOOKS FOR CHILDREN (3)

Three class hours per week.

Placing emphasis on reading for the elementary school child, this course is designed to help library-aides, teacher-aides and parents become aware of some of the most useful-to-know children's books, as related to a child's age, sex and emotional maturity.

### 57 STORYTELLING (3)

Three class hours and six home-preparation hours per week.

Laboratory experience in presenting stories and poetry to children in the kindergarten-primary grades and to acquaint the teacher-assistant, the teacher, the library-aide, and the librarian with the history of literature and the outstanding authors and illustrators of children's books.

## Life Sciences

(See Biology)

## Machine Tool Technology

### 48 (580) SELECTED TOPICS IN MACHINE TOOL TECHNOLOGY (1-3)

Hours by arrangement.

Selected topics in Machine Tool Technology not covered by regular catalog offerings. Course content and unit credit to be determined by the Technician Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

### 49 (590) SPECIAL PROJECTS (1-2)

Hours by arrangement. Prerequisite: 3.0 GPA in subject field.

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

**62 ADVANCED MACHINE TOOL THEORY (5)**

Five lecture hours per week. Prerequisites: M.T.T. 53, 53L or equivalent and concurrent enrollment in M.T.T. 51b.

Theoretical principles and practical applications of numerical control as applied to the machine tool industry. The relationship between machine tool principles, numerical control planning, and mathematics for numerical control programming.

**62L ADVANCED MACHINE TOOL PRACTICE (4)**

Four three-hour periods per week. Prerequisites: M.T.T. 52, 53L, or equivalent.

External and internal thread cutting, tool and cutter grinding, advanced machine tool practice, and an introduction to numerical control milling.

**63 TOOL AND DIE TECHNOLOGY THEORY (5)**

Five lecture hours per week. Prerequisites: M.T.T. 62, 62L, or equivalent.

Fundamentals of tool and die manufacture with emphasis on die design and power press nomenclature, safety power press die sets, die components terminology, elementary die construction theory, and principles of progressive and compound dies.

**63L TOOL AND DIE TECHNOLOGY PRACTICE (4)**

Four three-hour periods per week. Prerequisites: M.T.T. 62, 62L.

Fundamental practice in the design and manufacture of die sets, blanking and piercing operations, bending, deforming and shearing operation. (Extra supplies may be required.)

**100 APPLIED MACHINE TOOL MATHEMATICS (3)  
(Formerly M.T.T. 51)**

Three lecture hours per week. Prerequisites: None.

Practical applications of basic arithmetic, algebra, geometry and trigonometry, volumetric calculations and tables as applied to machine tool problems. Use of electronic calculators and Machinery's Handbook.

**102a (750) MACHINE TOOL THEORY AND PRACTICE (2)**

One lecture and three lab hours per week.

Survey of machine tool processes. Recommended for the

engineer, draftsman, technician and machinist trainee. Subjects covered: bench work, measurement, threads, cutting tools, lathe, mills, grinding, saws, and others. (Extra supplies may be required.)

**102b-102c (755-760) MACHINE TOOL THEORY AND PRACTICE (2-2)**

One lecture and three lab hours per week. Prerequisite: M.T.T. 102a.

Intermediate and advanced studies in machine tool. Allows student to develop skill in individual areas of interest — tool and cutter grinding, E.D.M., tool design, numerical control programming, thread cutting, and others. (Extra supplies may be required.)

**110-120 MACHINE TOOL THEORY FOR THE LATHE  
(1½, 1½) (Formerly M.T.T. 52)**

Three lecture hours per week for eight weeks. Prerequisite: M.T.T. 110 – concurrent enrollment in M.T.T. 111; M.T.T. 120 – concurrent enrollment in M.T.T. 121.

Basic theory of metal removal with emphasis on lathe operation. Safety and other related subjects are covered.

**111-121 MACHINE TOOL PRACTICE FOR THE LATHE  
(1½, 1½) (Formerly M.T.T. 52L)**

Nine lab hours per week for eight weeks. Prerequisite: M.T.T. 111 – concurrent enrollment in M.T.T. 110; M.T.T. 121 and concurrent enrollment in M.T.T. 120.

Laboratory experience in lathe operations and set-ups with emphasis on precision measurement, finishes, thread cutting, machine maintenance, shop practices, and other related subjects. Students will be required to purchase personal tools.

**140 (770) INTRODUCTION TO MANUAL NC PARTS PROGRAMMING (3)**

Three lecture hours per week. Prerequisite: Post-high school machine tools course or equivalent.

Actual training in programming NC tools. Concentrates on point-to-point machine tools with some exposure to contouring.

**210-220 MACHINE TOOL THEORY FOR THE MILL  
(1½, 1½) (Formerly M.T.T. 53)**

Three lecture hours per week for eight weeks. Prerequisite: M.T.T. 210 – concurrent enrollment in M.T.T. 211; M.T.T. 220 – concurrent enrollment in M.T.T. 221.

The basic theory of metal removal with emphasis on milling machine operation. Bench metals, layout, measurement, and other subjects are also covered.

**211-221 MACHINE TOOL PRACTICE FOR THE MILL**  
(1½, 1½) (Formerly M.T.T. 53L)

Nine lab hours per week for eight weeks. Prerequisite: M.T.T. 211 – concurrent enrollment in M.T.T. 210; M.T.T. 221 – concurrent enrollment in M.T.T. 220.

Machine operations and other laboratory activities with emphasis on the use of milling machines, set-up, layout, precision measurement, applied metallurgy and heat-treating, machine maintenance.

**230 BLUEPRINT READING (1)**

Two lecture hours per week for eight weeks. Prerequisite: None.

This course is to provide the machinist with the skills needed to read shop drawing. Views, projections, dimensioning, symbols, tolerances, sketching, and other related topics are covered.

**700-701 INTRODUCTION TO NUMERICAL CONTROL PROGRAMMING THEORY (1-1)**  
(Formerly M.T.T. 62-62L, Advanced Machine Tool Theory & Practice)

One lecture and three lab hours per week for eight weeks. Prerequisite: None.

Basic principles and practices of manual programming with emphasis on machine set-ups, absolute and incremental programming, control systems, numerical systems and codes. Recommended for students enrolled in machine program or for those with prior machining experience.

**710-711 PRINCIPLES OF GRINDING PROCESSES, THEORY AND PRACTICE (1-1)**  
(Formerly M.T.T. 53-53L, Intermediate Machine Tool Theory & Practice)

One lecture and three lab hours per week for eight weeks. Prerequisite: None.

Basic principles of grinding including wheel nomenclature, abrasives applications and grinding machines. Geometry of cutters and other tool grinding applications. Surface finishes and inspection techniques. Recommended for those with prior machining experience or students enrolled in the machine tool program.

**712 MACHINE TOOL BASIC LEARNING LAB (½)**

One hour per week, by arrangement, for eight weeks and/or completion of prescribed program. Prerequisites: None.

This self-paced program is an audio-visual presentation that allows the student to learn the basics of machine tool processes at his/her individual rate. By completing the prescribed program, the student may enter the machine tool program at specified half-semester points. Concurrent enrollment in M.T.T. 100 and M.T.T. 230 is suggested.

**720-721 TOOL AND DIE TECHNOLOGY, THEORY, AND PRACTICE (1-1)**  
(Formerly M.T.T. 63-63L)

One lecture and three lab hours per week for eight weeks. Prerequisite: None.

Fundamentals of tool and die manufacturing with emphasis on nomenclature, die design for the basic processes: i.e., punches, blanking, piercing and bending. Recommended for those with prior machining experience or students enrolled in the machine tool program.

## Management

**48 (MGMT 580) SELECTED TOPICS IN MANAGEMENT (1-3)**

Hours by arrangement.

Selected topics in Management not covered by regular catalog offerings. Course content and unit credit to be determined by the Business Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

**49 (MGMT 599) SPECIAL PROJECTS (1-2)**

Hours by arrangement. Prerequisite: 3.0 GPA in subject field.

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

**50 (MGMT 110) FINANCIAL MANAGEMENT (3)**

Three class hours per week.

Designed to acquaint the beginning student with many of the concepts of financial management (analysis of accounting statements, acquisition of funds, use of leverage, time value of money, management of cash, etc.). Planning, analysis, and control fundamentals for decision-making.

**52 (MGMT 120) REPORT WRITING (3)**

Three class hours per week.

A study of the principles of effective communication in a variety of business and industrial applications; clarity, accuracy and logic are emphasized in the presentation of written, verbal and statistical materials.



**54 (MGMT 140) MANAGEMENT COMMUNICATIONS (3)**

*Three class hours per week.*

The communication process — both verbal and written. Lectures, discussion, case studies and oral presentations on such topics as the relationship between communication and the organizational climate, perception, motivation, and the causes and patterns of mis-communication.

**55 (MGMT 150) DYNAMICS OF GROUP COMMUNICATIONS (3)**

*Three class hours per week. Prerequisite: Mgmt. 54.*

Development of understanding and skill in interpersonal communication in business and industrial groups. Students work in problem-solving groups for experiential learning. Group process theory discussed.

**61 (MGMT 160) INDUSTRIAL RELATIONS (3)**

*Three class hours per week.*

Employer and union policies affecting the labor market, emphasizing: wage systems, living conditions, productivity, unemployment, union organizations and collective bargaining. Industrial conflicts from the point of view of wage earner, employer and government.

**63 (MGMT 170) PLANNING, BUDGETING AND CONTROL FOR SUPERVISORS (3)**

*Three class hours per week.*

Planning, budgeting and control for supervisors and managers: project planning, work breakdown, project goals, scheduling systems (Gantt charts, PERT, CPM), cost estimating and cost curve displays; initiating action; performance reporting; corrective action techniques.

**65 (MGMT 180) BUSINESS AND INDUSTRIAL ECONOMICS (3)**

*Three class hours per week. (Econ. 1a and 1b may be substituted.)*

Supply and demand concepts and their operation in the market place. The overall effect of GNP, population trends, savings, investment, full employment and inflation, production decision-making, revenue estimating and profit maximization.

**71 (MGMT 200) MATERIALS MANAGEMENT (3)**

*Three class hours per week.*

Planning and scheduling, material and inventory planning, flow control, mechanical tabulation, identification systems. Designed to show how large and small businesses plan and control production in order to achieve competitive pricing of goods and services.

**72 (MGMT 210) MOTION STUDY AND METHODS ANALYSIS (3)**

*Three class hours per week.*

Techniques for finding the most economical way of doing a manual task and for measuring labor accomplishment. Application of time and motion study to lower cost production through better methods, procedure, tooling, product design and the elimination of wasteful practices.

**77 (MGMT 220) INDUSTRIAL ENGINEERING METHODS (3)**

*Three class hours per week.*

Overall view of manufacturing management. Fundamentals of organization, capital costs and budgets, motion and time study, industrial statistics, operations, research.

**80 (MGMT 230) MANAGEMENT OF HUMAN RESOURCES (3)**

*Three class hours per week.*

An introductory course designed for line supervision to develop understanding of the personnel function as it relates to industry; selection and placement; wage and salary procedures; training and evaluation.

**85 (MGMT 240) ORGANIZATIONAL BEHAVIOR (3)**

*Three class hours per week.*

Individual motivation, interpersonal communication, organizational influence, group dynamics, and decision-making in the organization; the relationship between culture, structure and technology; leadership and the managing of organization conflict.

**90 (MGMT 250) OFFICE MANAGEMENT & ADMINISTRATION (3) (Formerly Administrative Office Management)**

*Three class hours per week.*

Organization and planning of office services, office environment and equipment; human relations and behavioral concepts; new dimensions of information management. Review and update preparatory to Certified Administrative Manager examination.

**91 (MGMT 260) MANAGEMENT OF THE SALES FORCE (3) (Formerly Sales Management)**

*Three class hours per week.*

Organization of the sales force; operating a sales force including selecting, training, compensating, supervising and

stimulation. Planning sales force activities; operations including forecasting, budgeting, establishing territories, and quotas. Analysis of sales operations and evaluation of productivity.

**92 (MGMT 270) TECHNIQUES OF SUPERVISION (3)**

*Three class hours per week.*

Role of the manager, understanding and motivating employees, leadership, communications, problem-solving and decision-making, employee training, performance evaluation, labor relations, supervising different types of workers, delegation, improving work methods and reducing costs, planning and managing time.

**93 (MGMT 280) LEADERSHIP IN ORGANIZATION (3)**

*Three class hours per week.*

Introduction to the motivational aspects of leadership. Examines how individuals react to different styles of leadership. Students will examine their own management practices and beliefs, and gain insights into how these might be improved.

**96 (MGMT 290) ORGANIZATION FOR MANAGEMENT (3) (Formerly Administrative Organization)**

*Three class hours per week.*

A study of the principal functions of modern management such as planning, organizing, staffing, actuating, controlling, and decision-making.

**99 (MGMT 100) INTRO TO BUSINESS MANAGEMENT (3) (Formerly Principles of Management)**

*Three class hours per week.*

Survey of business principles and practices, problems, and procedures, background of American business, organization, ownership, financing, production and distribution of goods. (Satisfies Bus. 10 requirement for A.A. degree in Business and is required for Management certificate.)

## Mathematics

See also Business 50 and 51.

The normal sequence of mathematics courses at CSM is 11, 12, 20, 21, 28, 30, 31, 32, 33, 34. A student who qualifies for a particular mathematics course is eligible for any course lower in sequence. If the student has not taken a mathematics course during the previous two years, it is strongly recommended that the student enroll in a course below the one for which he/she would normally be eligible.

**1 PRE-ALGEBRA MATHEMATICS (1-3) (Credit/No Credit)**

*Three hours per week – individualized instruction.*

Basic arithmetic facts and operations of whole numbers, fractions and decimals. Students who achieve competency in the basics may elect an option such as fundamentals of algebra, nursing or industrial applications. May be repeated for a total of 3 semester units.

**2 ELEMENTARY ALGEBRA REVIEW (1) (Credit/No Credit)**

*Three hours per week – individualized instruction. Prerequisite: Elementary Algebra.*

A Review of Elementary Algebra.

**3 METRICS (1) (Credit/No Credit)**

*Three hours per week – individualized instruction.*

The metric system and its relationship to the English system.

**4 TECHNICAL ALGEBRA 1 (1-3) (Credit/No Credit)**

*Three hours per week – individualized instruction.*

An informal, intuitive, numerical approach to understanding algebra. Content chosen on the basis of its relevance to basic science and technology. Topics include signed numbers, fractions, equations, graphing, formula rearrangement and system of equations.

**5 TECHNICAL ALGEBRA 2 (1-3) (Credit/No Credit)**

*Three hours per week – individualized instruction. Prerequisite: Math. 4 or equivalent.*

Includes radicals, radical equations, quadratic equations, fractional exponents, logarithmic and exponential formulae, and semi-log and log-log graphs.

**6 TECHNICAL TRIGONOMETRY (1-3) (Credit/No Credit)**

*Three hours per week – individualized instruction. Prerequisite: Math. 5 or equivalent.*

Study of right triangles and trigonometric ratios; vectors, trigonometric ratios of standard-position angles; oblique triangles; applied geometric problems; identities and interpolation; sine wave analysis; complex numbers.

**7 CALCULATOR USAGE (1-3)  
(Credit/No Credit)**

Three hours per week – individualized instruction. Prerequisites: For 1 unit – none; for 2 – 3 units Math. 21 or equivalent.

Hands-on course in calculator usage, principally the pocket-calculator type. Calculators are available or a student may use his own. Designed to cover the capabilities of the machines available. Among the tasks to be mastered are the fundamental operations of real numbers, evaluating selected algebraic, trigonometric, logarithmic, and exponential function values and programming techniques.

**10 INTRODUCTION TO MATHEMATICAL CONCEPTS (3)**

Three class hours per week.

The basic ideas of mathematics and their historical development; number, function, logic, sets; the relationship of traditional and contemporary mathematical thought.

**11 ELEMENTARY ALGEBRA (5)**

Day – five class hours per week. Evening – six class hours per week.

Elementary Algebra through quadratic equations.

**11a-11b ELEMENTARY ALGEBRA (3-3)**

Three class hours per week.

A two-semester study of Elementary Algebra through quadratic equations.

**12 GEOMETRY (5)**

Day – five class hours per week. Evening – six class hours per week. Prerequisite: Math. 11 with grade C or better, or one year of high school Algebra with grade C or better.

Study of the properties of plane and solid figures, using formal logic and the real number system. Some non-Euclidean, projective and topological elements are included.

**13 ELEMENTARY FINITE MATHEMATICS (3)**

Three class hours per week. Prerequisite: Math. 19 or 20 with grade C or better, or 1½ years of high school Algebra with grade C or better.

An introduction to finite mathematics including set theory, logic, combinatorial techniques, elementary probability, systems of linear equations, matrices and linear programming. A variety of business applications is included.

**16 CONTENT OF ELEMENTARY SCHOOL MATHEMATICS (3)**

Three class hours per week.

Development of the real number system, logic, axiomatics, systems of numeration, history and development of arithmetic, arithmetic processes, inductive and deductive reasoning.

**17 INTRODUCTION OF SYMBOLIC LOGIC (3)**

See Philosophy 12.

**19 INTERMEDIATE ALGEBRA WITH REVIEW (5)**

Day – five class hours per week. Evening – six class hours per week. Prerequisite: Math 11 with grade C or better. Recommended: Math. 12 with grade C or better, or one year of high school Geometry with grade C or better.

Covers the same course material as Math. 20, but includes a review of material from Elementary Algebra.

**20 INTERMEDIATE ALGEBRA (3)**

Three class hours per week. Prerequisites: Math. 11 with grade C or better, or one year of high school Algebra with grade C or better. Recommended: Math. 12 with grade C or better, or one year of high school Geometry with grade C or better.

Extension of fundamental algebraic concepts and operations; binomial expansion; solution of linear and quadratic equations, individually and in systems; determinants; radical equations; complex numbers. Introduction to theory of equations.

**21 ANALYTIC TRIGONOMETRY (3)**

Three class hours per week. Prerequisites: Math. 12 and Math. 19 or 20 with grades of C or better; or high school preparation including 1½ years of Algebra and one year Geometry with grade C or better.

Trigonometric functions of real numbers and angles, their graphs and periodicity; reduction formulas; function of multiple angles; identities and equations; radian measure; inverse functions; logarithms; solution of triangles.

**22 ELEMENTARY PROBABILITY AND STATISTICS (4)**

Day – four class hours per week. Evening – five class hours per week. Prerequisite: Math. 20 or equivalent with grade C or better, or high school preparation including 1½ years of Algebra with C or better.

Treatment of use/misuse of data, measures of central tendency and dispersion, probability, sampling distributions, statistical inference, regression and correlation, contingency tables, time series analysis, index numbers.

**23a-23b APPLIED ANALYTIC GEOMETRY AND CALCULUS (5-3)**

Day – five class hours per week. Evening – six class hours per week. Prerequisites: 23a—Math. 21 with grade C or better, or high school preparation including 1½ years of Algebra, one year of Geometry, and one semester of Trigonometry with grade C or better. 23b – Three class hours per week. Prerequisite: Math. 23a with grade C or better.

**23a**—Selected topics from analytic geometry, plus basic techniques of both differential and integral calculus. (This sequence may not be substituted for the Math. 30 sequence for mathematics, physics or engineering majors.) **23b**—Further work in differentiation and integration, calculus of functions of several variables, and selected topics from differential equations.

**24a-24b MINICOMPUTER PROGRAMMING (1½-1½)**

Two lecture plus 2 lab hours per week by arrangement for seven weeks. Prerequisite: Math. 20 or equivalent with grade C or better, or high school preparation including 1½ years of Algebra with grade C or better.

**24a**—Elementary techniques of basic programming, including keyboard operations, data storage and recall, looping and branching. **24b**—Iterative methods of solving equations, series, approximating limits, solutions of quadratic equations, approximating functions, elementary statistical techniques, computer plotting, and advanced topics within the student's area of interest.

**25 FORTRAN PROGRAMMING WITH AN INTRODUCTION TO NUMERICAL AND STATISTICAL METHODS (3)**

Day – Two lecture and three lab hours per week. Evening – Three class hours plus two lab hours by arrangement per week. Prerequisite: Math. 21 with grade C or better, or high school preparation including two years of Algebra, one year of Geometry and one semester of Trigonometry with grade C or better.

FORTRAN IV programming; numerical methods for approximation of roots, solution of systems of equations, Newton's approximation, descriptive statistics, matrix manipulations and simulation through the use of random numbers. Students write and test a variety of computer programs. (Extra supplies may be required.)

**27 COLLEGE ALGEBRA WITH TRIGONOMETRY REVIEW (5)**

Day –Five class hours per week. Evening – six class hours per week. Prerequisite: Math 21 (or equivalent) with grade C or better; or high school preparation 1½ years of Algebra, one year of Geometry and one semester of Trigonometry with grade C or better.

Covers the same course material as Math. 28 but includes a review of Trigonometry.

**28 COLLEGE ALGEBRA (3)**

Three class hours per week. Prerequisite: Math. 21 (or equivalent) with grade C or better; or high school preparation including 1½ years of Algebra, one year of Geometry and one semester of Trigonometry with grade C or better.

Study of more advanced algebra, including such topics as theory of equations, complex numbers, logarithmic and exponential functions, vectors, matrices, binomial theorem, sequences.

**30 ANALYTIC GEOMETRY (4)**

Day – four class hours per week. Evening – five class hours per week. Prerequisite: Math. 21 and 27 or 28 with grades of C or better, or high school preparation including two years of Algebra, one year of Geometry, and one semester of Trigonometry with grade C or better.

Elements of plane and solid analytic geometry.

**31 CALCULUS (4)**

Day – four class hours per week. Evening – five class hours per week. Prerequisite: Math. 30 (or equivalent) with grade C or better.

Development of the basic theory and techniques of differential and integral calculus as applied to algebraic functions.

**32 CALCULUS (4)**

Day – four class hours per week. Evening – five class hours per week. Prerequisite: Math. 31 (or equivalent) with grade C or better.

Additional topics of differential and integral calculus including transcendental functions, techniques of integration, indeterminate forms and improper integrals.

**33 CALCULUS (4)**

Day – four class hours per week. Evening – five class hours per week. Prerequisite: Math. 32 (or equivalent) with grade C or better.

Additional topics of differential and integral calculus including series, vectors and functions of several variables.

**34 ORDINARY DIFFERENTIAL EQUATIONS (3)**

Three class hours per week. Prerequisite: Math. 33 (or equivalent) with grade C or better. When approved by the instructor, may be taken concurrently with Math. 33.

Differential equations of first, second and higher order; simul-

taneous, linear, homogeneous equations; solutions by power series; numerical methods, Fourier series, Laplace transforms, and applications.

**35 LINEAR ALGEBRA (3)**

*Three class hours per week. Prerequisite: Math. 31.*

Vectors and matrices applied to linear equations and linear transformations; real and inner product spaces.

**48 SELECTED TOPICS IN MATHEMATICS (1-3)**

*Hours by arrangement.*

Selected topics in Mathematics not covered by regular catalog offerings. Course content and unit credit to be determined by Math/Science Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

**49 SPECIAL PROJECTS (1-2)**

*Hours by arrangement. Prerequisite: 3.0 GPA in subject field.*

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

**55 APPLIED TRIGONOMETRY (3)**

*Three class hours per week. Prerequisites: Math. 12 and Math. 19 or 20 with grades of C or better, or high school preparation including 1½ years of Algebra and one year of Geometry with grade C or better.*

Trigonometric functions as functions of angle measure, their graphs and periodicity. Introduction to solutions of trigonometric equations. Vectors. Solutions of triangles. (Not recommended for students intending to take the Math. 30 sequence.)

## Medical Assisting

(For Program Planning and Suggested Curricula see Business — Medical Assisting)

**57a-57b (MEDA 110-111) MEDICAL TERMINOLOGY BASIC/ADVANCED (3-3)**

*Three class hours per week. Prerequisite: 57a – None; 57b – M.A. 57a.*

**57a** — Development of a medical vocabulary through the study of the principles of word construction and work analysis, with emphasis on spelling and pronunciation. Medical abbreviations and symbols. **57b** — Terminology in medical specialties as it relates to body structure, pathological conditions and diseases; operative terms and techniques, laboratory and radiological diagnostic procedures.

**59 (MEDA 100) INTRODUCTION TO MEDICAL OFFICE TRAINING (3)**

*Three class hours per week.*

Duties and responsibilities of a medical assistant in a physician's office, clinic, hospital or other medical facility. Emphasis on desirable personality traits and human relationships as well as on medical ethics, specialties in the medical field and office maintenance.

**60 (MEDA 120) CLINICAL PROCEDURES (3)**

*Two lecture and three lab hours per week. Prerequisite: Biology 7.*

Examination room techniques; sterilization procedures; medical emergencies; laboratory procedures; pharmacology. (Fall only.)

**70a (MEDA 180) MEDICAL ASSISTING REVIEW, ADMINISTRATIVE (3)**

*Three class hours per week. Prerequisites: M.A. 57, 59, 95 and 100 or employment as a medical assistant and/or medical secretary.*

Clerical office procedures. General review of administrative office duties performed in a medical office, including correspondence, transcription, insurance, telephone, basic book-keeping, medical ethics and legal aspects.

**70b (MEDA 130) MEDICAL ASSISTING REVIEW, CLINICAL (3)**

*Three class hours per week. Prerequisites: M.A. 57, 59, and 60 or employment as a medical assistant and/or medical secretary.*

Medical terminology and clinical procedures. Comprehensive review of medical terminology and the anatomical systems. Review of the clinical duties peculiar to a medical office, including sterilization techniques, laboratory and x-ray studies and physical examinations. Medical ethics.

**94 (MEDA 140) MEDICAL TRANSCRIPTION (2)**

*Four class hours per week. Prerequisites: Bus. 92.6, 92.7 or equivalent; M.A. 57.*

Machine transcription of medical reports. (Spring only.)

**95 (MEDA 160) MEDICAL INSURANCE PROCEDURES (2)**

Four class hours per week. Prerequisites: M.A. 59, Bus. 92.7 or equivalent.

Blue Cross, Blue Shield, Medicare, Medi-Cal, Workmen's Compensation and other insurance programs are presented. Coding resources utilized in claims preparation. Billing and bookkeeping methods. (Fall only.)

**100 (MEDA 150) MEDICAL OFFICE PROCEDURES (3)**

Four class hours a week, plus 1 hour by arrangement. Prerequisites: M.A. 57, 59, Bus. 92.6, 92.7 or equivalent and enrollment in or completion of one course in college English.

Fundamental office procedures applied to the medical field. Medical office simulations require decision-making in setting priorities, finding information, coping with interruptions, producing under pressure. (Fall only.)

**108 (MEDA 170) MEDICAL ASSISTING EXTERNSHIP (4)**

Two class hours per week plus 10 hours per week of supervised training in medical office. Prerequisites: Completion of or enrollment in Medical Assisting 60, 94, 95, 100.

Practical experience, under supervision, in a physician's office or clinic and/or hospital, with weekly seminar.

## Meteorology

**1 ELEMENTARY METEOROLOGY (3)**

Three lecture hours per week.

Elementary meteorology, including the basic processes of weather phenomena, basic weather analysis and forecasting.

**10 AVIATION WEATHER (3)**

Three class hours per week. Prerequisite: Aero. 2a.

Basic weather concepts and their special application to aviation. Designed to prepare the aviation student for the meteorology portion of the FAA pilot's examination.

**48 SELECTED TOPICS IN METEOROLOGY (1-3)**

Hours by arrangement.

Selected topics in Meteorology not covered by regular catalog offerings. Course content and unit credit to be determined by the Math/Science Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

**49 SPECIAL PROJECTS (1-2)**

Hours by arrangement. Prerequisite: 3.0 GPA in subject field.

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

## Military Science

(Reserve Officers Training Corps)

**1a-1b FUNDAMENTALS OF LEADERSHIP;  
THE U.S. DEFENSE ESTABLISHMENT (2-2)**

One lecture hour and one leadership lab bi-weekly.

First year basic course. Provides orientation concerning organization, management, and leadership fundamentals in formal organizations. Role of the citizen-soldier; foundations of national power, and causes of conflict are examined. Oral reports and written requirements enhance communicative abilities.

**12a-12b MAP AND AERIAL PHOTOGRAPH READING;  
APPLIED LEADERSHIP AND MANAGEMENT  
(2-2)**

One lecture hour and one leadership lab bi-weekly. Prerequisite: Military Science 1a-1b.

Second year basic course. The functions, duties, and responsibilities of junior leaders; mission, organization, and composition of the basic military team; study of the basic principles of map and aerial photograph reading to include military geography, map symbols, military grid systems, resection techniques, and use of compass. Instruction in military operations and basic tactics; continuing development of leadership through practical exercises.

## Music

Music 15, 16, 17, 18b, 22, 23, 24, 25, 26b, 27, 28, 29, 33, 34, 35, 39, 40 may be taken for credit four times.

**1a-1b MUSICIANSHIP (3-3)**

Three class hours per week. Prerequisite: 1a – Music 9 or equivalent; concurrent enrollment in Music 4a; 1b – Music 1a; concurrent enrollment in Music 4b.



Study of music notations, keys and intervals. Performance at sight of melodic and rhythmic examples. Dictation of melodic, harmonic and rhythmic examples. Fundamentals of keyboard harmony.

**2a-2b ADVANCED MUSICIANSHIP (3-3)**

*Three class hours per week. Prerequisite: Music 1a-1b or equivalent; concurrent enrollment in Music 5a; 2b – Music 2a; concurrent enrollment in Music 5b.*

Continuation of Music 1a-1b. (Nine units of musicianship are recommended for students majoring in Music.)

**4a-4b HARMONY (3-3)**

*Three class hours per week. Prerequisites: 4a – Music 9 or equivalent, Music 1a-1b (or equivalent), or taken concurrently; 4b – Music 4a.*

Principles of scale, mode and interval construction; Triads in first, second and third inversions; melodic and harmonic rhythm; root progressions and voice leading; seventh chords and secondary dominants; introduction to common harmonic practice through exercises, analysis and creative work.

**5a-5b ADVANCED HARMONY (3-3)**

*Three class hours per week. Prerequisite: 5a – Music 4a-4b; concurrent enrollment in Music 2a; 5b – Music 5a, concurrent enrollment in Music 2b.*

Continuation of the study of tonal and formal procedures; the contextual investigations of diminished seventh, neopolitan sixth and augmented sixth chords; tonicization, modulation and sequence; introduction to Impressionism and to 20th Century melody, harmony and form.

**6 MUSIC LITERATURE AND APPRECIATION (3)**

*Three lecture hours plus three hours required listening per week.*

A survey of the music of Western Civilization, emphasizing the techniques of listening and understanding of the art. Text, illustrated lectures and directed listening in the library.

**7 SURVEY OF BLACK MUSIC (3)**

*Three lecture hours per week.*

Chronological survey of the various styles and salient elements of the music of the Afro-American, encompassing sociological as well as musical factors. (Identical to Ethnic Studies 41.)

**8 HISTORY OF JAZZ (3)**

*Three lecture hours per week.*

Study of jazz since 1900, with emphasis on instrumental

styles; the development of jazz since 1940 and contemporary trends. (Identical to Ethnic Studies 42.)

**9 FUNDAMENTALS OF MUSIC (3)**

*Three lecture hours per week.*

Designed for the student who wishes to learn how to read music and perform it at sight. Recommended for students with limited musical background who wish to begin the formal study of music theory. Also recommended for education majors.

**12 ELEMENTARY PIANO (1)**

*Three class hours plus two lab hours per week.*

Study in the techniques of piano playing. Individual attention, assignments and performance in a class situation.

**13 ADVANCED ELEMENTARY PIANO (1)**

*Three class hours plus two lab hours per week. Prerequisite: Music 12 or equivalent.*

Continuation of study in the techniques of piano playing. Individual attention, assignments and performance in a class situation.

**14 INTERMEDIATE PIANO (1)**

*Three class hours plus two lab hours per week. Prerequisite: Music 13 or equivalent.*

Continuation of study in the techniques of piano playing. Individual attention, assignments and performance in a class situation.

**15 ADVANCED PIANO (1)**

*Three class hours plus two lab hours per week. Prerequisite: Music 14 or equivalent.*

For advanced students. Recital performance is part of the course. (May be repeated for credit.)

**16 IMPROVISATION (3)**

*Three class hours per week. Prerequisite: Music 4a or equivalent.*

Study of improvisatory styles and techniques and the historical perspective of the practices; rhythmic, harmonic and melodic foundations; and improvisatory ensemble. (May be repeated for credit.) Applicable to a major in music.

**17 COMPOSERS WORKSHOP (2)**

*One lecture and two lab hours per week. Prerequisite: Music 4a-4b or equivalent.*

Study of compositional style from Schoenberg to the present,

with particular emphasis on dodecaphonic, electronic and aleatory techniques. Performance of student works is an integral part of the course. (May be repeated for credit.)

### 18a-18b GUITAR (1-1)

Three lecture hours plus two lab hours per week. Prerequisite: 18a – None; 18b – Music 18a.

**18a**—Study in the techniques of guitar performance and reading music to a degree which will enable the student to play accompaniments to compositions written for the guitar. Students must supply their own instruments.

**18b**—Continuation of 18a with emphasis on solo performances. (18b may be repeated for credit.)

### 21a-b-c-d SYMPHONY ORCHESTRA (1-1-1-1)

Three class hours per week. Prerequisite: Music 24, 25, 26 as applicable, or equivalent. Demonstration of proficiency.

The study and performance of orchestral literature appropriate for a large orchestra. Each semester is concerned with works differing from the previous semester's, providing a succession of new curriculum.

### 22 ORCHESTRA (1)

Three class hours per week. Prerequisite: Music 24, 25, 26 as applicable, or equivalent. Demonstration of proficiency.

Study and performance of standard and contemporary literature for chamber and symphonic ensembles. Performance is required. (May be repeated for credit.)

### 23 SYMPHONIC BAND (1)

Three class hours. Prerequisite: Music 24, 25, 26 as applicable, or equivalent. Demonstration of proficiency.

Study and performance of music for concert band. Performance is required. Band does not perform at athletic events. (May be repeated for credit.)

### 24 STUDY OF BRASS INSTRUMENTS (1)

Three class hours plus two lab hours per week.

Techniques of playing the instrument of the student's choice, with individual instruction. (May be repeated for credit.)

### 25 STUDY OF WOODWIND INSTRUMENTS (1)

Three class hours plus two lab hours per week.

Technique of playing the instrument of the student's choice, with individual instruction. (May be repeated for credit.)

### 26a-26b STUDY OF STRINGED INSTRUMENTS (1-1)

Three class hours plus two lab hours per week. Prerequisite: 26a – None; 26b – Music 26a.

**26a**—Beginning study of performance on violin, viola, cello or string bass. **26b**—Continuation of Music 26a. Technique of playing the violin, viola, cello or string bass, with individual instruction. (May be repeated for credit.)

### 27 INSTRUMENTAL ENSEMBLE (1)

Three class hours per week.

An ensemble class to provide group experience for various kinds of instruments in a variety of combinations.

### 28 JAZZ BAND (2)

Five class hours per week. Prerequisite: Music 29, or equivalent. Demonstration of proficiency.

Advanced course which includes organization, training procedures, arranging, vocals and other phases of dance band work. Performance is required. (May be repeated for credit.)

### 29 JAZZ WORKSHOP (1)

Three class hours per week.

A workshop for the musician who wishes to learn jazz interpretation and styles. Ensemble experience from "Blues" to present-day jazz.

### 33 A CAPPELLA CHOIR (1-2)

Five class hours per week (daily), or three hours per week (MWF). Prerequisite: Music 37, or the equivalent. Demonstration of proficiency.

Study and performance of choral literature for accompanied and unaccompanied choir. Performance is required. (May be repeated for credit.)

### 34 COLLEGE CHORALE (1)

Three class hours per week. Prerequisite: Concurrent enrollment in Music 33. Demonstration of proficiency.

An advanced ensemble which specializes in the performance of choral literature appropriate for small choir. Members are selected by audition from the enrollment of the A Cappella Choir. Performance is a part of the course. (May be repeated for credit.)

### 35a, b, c, d MASTERWORKS CHORALE (1-1-1-1)

Three class hours per week. Prerequisite: Music 33, or the equivalent. Demonstration of proficiency.

The study and performance of chorale literature appropriate for large chorus. Each semester is concerned with works differing from the previous semester's, providing a succession of new curriculum.

**37 ELEMENTARY SOLO VOICE (1)**

*Three class hours plus two lab hours per week.*

Elementary vocal problems analyzed and corrected through exercises and songs. (May be repeated for credit.)

**38 INTERMEDIATE SOLO VOICE (1)**

*Three class hours plus two lab hours per week. Prerequisite: Music 37 or equivalent.*

Advanced songs and recital performance as ability merits. (May be repeated for credit.)

**39 ADVANCED SOLO VOICE (1)**

*Three class hours plus two lab hours per week. Prerequisite: Music 38 or equivalent.*

Performance course, emphasis on the study and performance of lieder, arias and other classical vocal literature. (May be repeated for credit.)

**40 MUSICAL PRODUCTIONS (1-3)**

*Hours by arrangement. Prerequisite: Demonstration of proficiency.*

Training in solo and chorus work for staging a musical production. (May be repeated for credit.)

**41 MUSIC RECITALS (½)**

*One class hour per week.*

A performing and listening course to provide recital experience and acquaintance with performance practices and musical styles. (Music majors are required to complete four semesters.)

**48 SELECTED TOPICS IN MUSIC (1-3)**

*Hours by arrangement.*

Selected topics in Music not covered by regular catalog offerings. Course content and unit credit to be determined by the Fine Arts Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

**49 SPECIAL PROJECTS (1-2)**

*Hours by arrangement. Prerequisite: 3.0 GPA in subject field.*

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

## Nursing—A.S. Degree

The courses described are open only to those students accepted in the nursing program (see admission requirements on Page 90). A Grade C or higher is necessary for progression in the sequence. Upon graduation, the candidate receives an Associate in Science degree and is eligible to write the California Board of Registered Nursing licensing examination. Please contact the Nursing Department for information.

**1 NURSING (8)**

*Four lecture hours and twelve lab hours, which includes three Skills Lab hours per week. Prerequisite: Registration in the Associate in Science Degree Nursing Program or Vocational Nursing Program, and either concurrent enrollment in or satisfactory completion of Biology 41, Psychology 1a.*

Principles and practices in the fundamentals of nursing common to all patient conditions. Common needs of normal and ill individuals are considered. Correlated clinical practice with the subacute and chronically ill and skills labs are offered concurrently with the lectures. (Completion of this course with C grade or better waives one unit of Health Science requirement.)

**2 NURSING (8)**

*Four lecture and twelve lab hours per week. Prerequisites: Nursing 1, Biology 41, and Psychology 1a with grade C or better, and concurrent enrollment in or satisfactory completion of Biology 42 and Psychology 5.*

Human behavior, growth and development of child and family. Focus on nursing care related to the adaptations to stress during the growth and development cycle, the maternity cycle and emotional illness. Theory and clinical experience, principles of growth and development, mental health, homeostasis and nutrition are correlated. Skills lab is part of the course. (Completion of this course with grade C or better waives one unit of Health Science requirement.)

**3 NURSING (3)**

*Three lecture and sixteen lab hours per week. Prerequisites: Nursing 2, Biology 42, Psychology 5, all with C grade or better.*

Care of adult patients with emphasis on chronic physical and emotional illness, including preventive, therapeutic, pharmacological, nutritional and rehabilitative aspects. Clinical experiences take place in a variety of settings. Theory and clinical experience are correlated.

**4 NURSING (8)**

Five lecture hours and 9 lab hours and one Skills Lab hour per week. Prerequisites: Nursing 3 with a grade C or better.

Care of adult patients with illnesses requiring medical/surgical interventions, and preventive, therapeutic, pharmacological, nutritional and rehabilitative aspects of these conditions. Skills lab and principles of growth and development, mental health and homeostasis are correlated.

**5 NURSING (9)**

Four lecture hours and 15 lab hours and one Skills lab hour per week. Prerequisite: Nursing 4 with grade C or better.

Correlated theory and clinical experience in nursing of patients with acute conditions requiring medical/surgical intervention, long-term care and rehabilitation. Preventive, therapeutic, pharmacological, nutritional aspects. Principles of growth and development, mental health and homeostasis. Afternoon rotations and skills labs are correlated. (Completion of course with C grade or better is required for graduation and eligibility for licensure examination.)

**40 SPECIAL PRACTICE REVIEW (3-5)  
(Credit/No Credit)**

Two to four lecture hours and three laboratory hours per week. Prerequisites: Completion of Nursing 5 or equivalent, or current California R.N. License and malpractice insurance coverage.

Continuing education for registered nurses who wish to update skills, gain depth of knowledge in a particular area, and/or become more cognizant of changing health care. Includes concurrent theory and clinical practice. Student and instructor plan a program based on the student's learning needs. (May be repeated for credit.)

**41 THEORY REVIEW — FUNDAMENTALS OF NURSING  
(4)(Credit/No Credit)**

Four lecture hours per week. Prerequisites: Completion of Nursing 5 or equivalent, or current R.N. License.

Review for nurses of knowledge and skills basic to nursing care of patients with sub-acute and chronic illnesses. Principles and practices which serve as guides to basic nursing care common to all conditions and health needs of the individual are considered.

**42 THEORY REVIEW—MATERNAL AND CHILD  
HEALTH/PSYCHIATRIC NURSING (4)  
(Credit/No Credit)**

Four lecture hours per week. Prerequisites: Completion of Nursing 5 or equivalent, or current R.N. License.

Concepts of human behavior, and growth and development of child and family. Focus on nursing care related to adapta-

tions to stress during maternity cycle and during emotional illness. Principles of growth and development, mental health, homeostasis and nutrition are correlated.

**43 THEORY REVIEW — NURSING CARE OF ADULTS  
WITH CHRONIC HEALTH AND PHYSICAL ILLNESS (1)  
(Credit/No Credit)**

Three lecture hours per week. Prerequisites: Completion of Nursing 5 or equivalent, or current R.N. License.

Nursing care of adult patients with physical or emotional illness including preventive, therapeutic, pharmacological, nutritional and rehabilitative concepts.

**44 THEORY REVIEW — BEGINNING  
MEDICAL/SURGICAL (4) (Credit/No Credit)**

Four lecture hours per week. Prerequisites: Completion of Nursing 5 or equivalent, or current R.N. License.

Nursing care of adult patients with illnesses requiring medical/surgical intervention. Includes preventive, therapeutic, pharmacological, nutritional and rehabilitative, growth and development, mental health and homeostatic concepts.

**45 THEORY REVIEW—ADVANCED  
MEDICAL/SURGICAL (4) (Credit/No Credit)**

Four lecture hours per week. Prerequisites: Completion of Nursing 5 or equivalent, or current R.N. License.

Care of patients with acute conditions requiring medical/surgical intervention, long-term care and rehabilitation. Preventive, therapeutic, pharmacological and nutritional aspects are included. Principles of growth and development, mental health and homeostasis are investigated in greater depth.

**46 NURSING SEMINAR (1-2)  
(Credit/No Credit)**

Two lecture hours per week. Prerequisite: Concurrent enrollment in the Nursing Program.

Discussion of nursing theory and its application concurrent with content of Nursing 1, 2, 3, and 4; focus on study habits, test taking, developing and evaluating nursing care plans. (May be repeated three times for credit.)

**47 COOPERATIVE EDUCATION (1-4)**

Work experience in a field related to career goal, supplemented by individual counseling from an instructor-coordinator. (See Page 130.)

**48 SELECTED TOPICS IN NURSING (1-3)**

Hours by arrangement. Prerequisite: Nursing 5 or equivalent, or current R.N. License.

Selected topics in Nursing not covered by regular catalog offerings. Course content and unit credit to be determined by the Health and Service Careers Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

#### 49 SPECIAL PROJECTS (1-2)

*Hours by arrangement. Prerequisite: 3.0 GPA in subject field.*

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

#### 50 PRE-NURSING (2) (Credit/No Credit)

*Two lecture hours per week.*

Introduction to basic concepts and skills in nursing — the role of the nurse, problem solving, interpersonal relationships, medical terminology, learning and communication skills.

## Nursing — Vocational

#### 51 MEDICAL-SURGICAL NURSING I (7)

*Five lecture and 6 lab hours per week. Prerequisite: Registration in Vocational Nursing curriculum and concurrent enrollment in (or satisfactory completion of) Biology 7, Nursing 1 and Psychology 1a.*

Correlation of theory and laboratory experience in chronic and subacute medical and surgical conditions of adults and children. Principles of growth and development and mental health are included.

#### 52a MEDICAL-SURGICAL NURSING II (15)

*Seven lecture and 24 lab hours per week. Prerequisite: Grades of C or better in V.N. 51, Nursing 1, Psychology 1a and Biology 7, and concurrent enrollment in or satisfactory completion of Biology 52.*

Continuation of V.N. 51 with experience in more complex medical-surgical nursing situations, including the care of the mother and newborn. The role of the vocational nurse as a member of the health team is emphasized.

#### 52b MEDICAL-SURGICAL NURSING III (9)

*Five lecture and 36 lab hours per week. Prerequisite: Grades of C or better in V.N. 52a and Biology 52.*

Continuation of V.N. 52a. (Completion of course with C grade or better is required for certification and eligibility for license examination.)

#### 60 NURSING ASSISTANT—HOME HEALTH AIDE (8)

*A 240-hour program consisting of 136 hours of theory and 104 hours of correlated clinical experience in acute hospitals, skilled nursing facilities and patients' homes.*

Designed to teach the student basic nursing skills to be able to function safely and effectively under a nurse's supervision in a health agency, extended care facility, or in the home. The successful completion of this program results in a certificate as both Nursing Assistant and Home Health Aide.

## Oceanography

#### 10 OCEANOGRAPHY (3)

*Three class hours per week plus two field trips.*

Introduction to marine geology, chemistry and biology. Includes the hydrologic cycle, properties of sea water and marine organisms; currents, waves, tides, coastal processes and ecology of the ocean; continental drift and sea floor spreading.

## Paleontology

#### 1 GENERAL PALEONTOLOGY (3)

*Two lecture and two recitation hours per week, plus one weekend field trip and one day-long field trip.*

Survey of the history and classification of plants and animals; methods of interpretation of the fossil record; fossils as evidence of the history of life; evolution of form and structure in plants and animals; sequence of floras and faunas in the rocks, including a brief summary of fossil men and human evolution.

## Philosophy

See also Humanities.

#### 1 (100) INTRODUCTION TO PHILOSOPHY (3)

*Three class hours per week.*

An introductory survey of philosophical questions and points of view for students not planning to major in philosophy. Problems about the nature of the world and human life and thought are discussed, including specific modern questions such as the right to die and other issues of morality and belief. Intended to help students clarify their own thinking about such questions, through learning and discussing how philosophers have dealt with them.

**6a (101) INTRODUCTION TO SOCIAL AND POLITICAL PHILOSOPHY (3)**

*Three class hours per week.*

A course intended to help students understand some basic philosophical issues and use the critical methods of philosophy, through consideration of selected social and political theories, both ancient and modern. Differing political perspectives, including modern American democracy, are discussed and compared.

**6b (200) INTRODUCTION TO THEORY OF KNOWLEDGE (3)**

*Three class hours per week.*

A critical study of the possible sources and limits of human knowledge; the ability of sense experience, reason, faith, intuition to provide reliable information about reality and ourselves, with primary emphasis on consciousness as the means of "knowing." In addition to studying traditional Western Philosophy, the course examines recent trends in psychology, parapsychology, biofeedback, and varieties of meditation techniques.

**7 (210) INTRODUCTION TO LOGIC (3)**

*Three class hours per week.*

Conditions of clear statements; procedures and criteria for evaluating arguments with attention to both their content and their form; questions of the adequacy and relevance of statements used to support conclusions.

**12 (215) INTRODUCTION TO SYMBOLIC LOGIC (3)**

*Three class hours per week.*

A study of the logical structure of language, the validity of arguments expressed symbolically. Introduction to the logic of classes and relations. Introduction to the logic of mathematics. (Identical to Math. 17.) (Not offered in 1978-79.)

**20a (110) HISTORY OF PHILOSOPHY (3)**

*Three class hours per week.*

A study of Greek philosophy with emphasis on Pre-Socratic philosophers, Socrates, Plato and Aristotle; philosophy of the Roman world, and the development of Christian philosophy in the Middle Ages.

**20b (125) HISTORY OF PHILOSOPHY (3)**

*Three class hours per week.*

A study of the thought of the Renaissance; the rise of modern science; continental rationalism in Descartes, Leibniz, Spinoza; the opposing tradition of British empiricism and the critical philosophy of Kant.

**20c (130) CONTEMPORARY PHILOSOPHY (3)  
(Formerly History of Philosophy)**

*Three class hours per week.*

A study of 19th and 20th Century philosophical positions, including those of Hegel, Nietzsche, Schopenhauer, the Utilitarians, Pragmatists, Logical Positivists, Existentialists and contemporary analytic philosophers.

**23 (220) INTRODUCTION TO ETHICS (3)**

*Three class hours per week.*

A study of the leading theories of moral principles and ideals, and their application to typical problems of institutional behavior, life, property, and the family. Contemporary moral issues such as the right to life, the right to die, and sexual preferences and practices are discussed.

**24a (240) INTRODUCTION TO WORLD RELIGIONS (3)**

*Three class hours per week.*

An introductory course describing the content and meaning of the great religions of the world; their cultural background, history and development, cultic practices, basic moral-religious tenets, literature and art, and their impact on the society and culture of which they are a part.

**24b (245) INTRODUCTION TO RELIGION —  
PHILOSOPHY OF RELIGION (3)**

*Three class hours per week.*

An investigation of the questions relating to the existence of God, including appeals to rational arguments, revelation, miracles, authority, faith, mystical experience; the nature of God and the problem of evil; the relationship between religion and moral convictions, and between religion and science; the problem of immortality.

**35 (260) ASIAN PHILOSOPHY (3)**

*Three class hours per week.*

An introduction to the major moral, political and religious philosophies of India, China and Japan, and their approaches to problems of knowledge. Examination of their major philosophical traditions and their contemporary approaches to problems of man and society.



ADMISSIONS AND REGISTRATION  
COLLEGE OF SAN MATEO  
1700 W. HILLSDALE BLVD.  
SAN MATEO, CALIFORNIA 94402

**37 (281) PHILOSOPHICAL THEORIES OF CONSCIOUSNESS (3)**

Three class hours per week.

A course aimed at providing students with the means of following the perennial injunction of philosophy: "Know Thyself." The nature of consciousness and the relation of the self to the world. A survey of some of the methods of self-awareness and meditation, and the part played by consciousness in a variety of traditions, including Yoga, Buddhism, Sufism, and Christian mysticism.

**48 (580) SELECTED TOPICS IN PHILOSOPHY (1-3)**

Hours by arrangement.

Selected topics in Philosophy not covered by regular catalog offerings. Course content and unit credit to be determined by the Social Science Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

**49 (590) SPECIAL PROJECTS (1-2)**

Hours by arrangement. Prerequisite: 3.0 GPA in subject field.

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

## Physical Education

The Physical Education Division offers a wide variety of physical activities in which individual students can choose to participate in accordance with their interest and needs, and which have carry-over value for the students' leisure time, now and in future years. Instruction is provided in progressive levels of competency, offering the opportunity for specialization in a given activity. See page 62 for physical education requirements.

### AQUATICS

**AQUATIC FITNESS (1)**

Two lab hours per week. Prerequisite: Ability to swim 200 yards continuously, demonstration of the crawl stroke.

Endurance swimming is stressed, based on an interval training system. A class goal is the ability to swim one mile within a 40-minute time period. Occasional participation in officiating home swimming meets may be required.

**DIVING (1)**

Two lab hours per week. Prerequisite: Demonstration of competency.

Open to all divers. Students will be challenged by dives suited to their level of ability. Dives will be taught from one- and three-meter boards as well as from the mini-tramp.

**LIFE SAVING (1)**

Two lab hours per week. Prerequisite: Ability to swim 400 yards continuously, demonstration of the crawl, side and breast stroke; standing front dive; surface dive to six-foot depth and swim two body lengths under water; floating required.

Progressive skill development in take-offs, approaches, carries, defensive mechanism, shallow water carries, water safety knowledge and artificial respiration.

**ELEMENTARY SKIN AND SCUBA DIVING (2)**

One lecture and four lab hours per week for eight weeks. Prerequisite: The same as Life Saving; Medical clearance from physician required before student can start scuba.

Elements of skin diving are covered, as well as complete swimming pool training with scuba gear. Students who successfully complete this course may proceed to take their "ocean dives" from licensed scuba operators at a nominal cost. All scuba equipment utilized in CSM pools is provided by the College.

**ELEMENTARY/INTERMEDIATE/ADVANCED SWIMMING (1)**

Two lab hours per week.

Instruction in water adjustment, treading, floating, breathing techniques, crawl, breaststroke, sidestroke, backstroke, and elementary diving; also personal water safety procedures.

Class is divided by levels of ability. (Offered Summer Session only.)

**INTERMEDIATE SWIMMING AND ELEMENTARY WATER POLO (1)**

Two lab hours per week. Prerequisite: The ability to swim comfortably in deep water.

Instruction in the basic swimming strokes plus basic water polo fundamentals and actual competitive scrimmages. Progressive skill development in picking up the ball in water; passing, receiving, shooting, dribbling and playing the game of water polo. Knowledge of water polo rules. Practical assignments involving officiating responsibilities for home contests. For students with no previous water polo experience.

### **ELEMENTARY WATER POLO (1)**

*Two lab hours per week. Prerequisite: Ability to swim 50 yards using a "head high" crawlstroke, to swim 50 yards using the breaststroke, to tread water for 4 minutes, and to tread water for 1 minute with the hands out of water.*

Progressive skill development in picking up the ball in the water, passing, receiving, shooting, dribbling and playing the game of water polo. Knowledge of water polo rules. Practical assignments involving officiating responsibilities for home contests. For students with no previous organized water polo experience.

### **INTERMEDIATE /ADVANCED WATER POLO (1)**

*Two lab hours per week. Prerequisite: Demonstration of competency.*

Review of shooting skills, defensive techniques, and goal tending. Introduction to team defense and techniques utilizing the extra man. Participation in intra-class league games.

### **THEORY AND STRATEGY OF WATER POLO (1)**

*Two lab hours per week. Prerequisites: Completion of at least 1 year of high school water polo, and/or satisfactory demonstration in a testing situation of elementary skills; passing, receiving, shooting and dribbling, as well as demonstration of ability to swim 500 yards continuously within 7 minutes.*

Course is designed to review various offensive and defensive styles, as well as to provide knowledge regarding the techniques and psychology of goal tending. (Offered during Summer Session only.)

### **WATER SAFETY INSTRUCTOR (1½)**

*Three lab hours per week. Prerequisite: Demonstration of competency.*

Development of effective performance in the basic swimming strokes and various life saving and water safety skills. Teaching techniques, methods and knowledge necessary to teach American Red Cross swimming and life saving courses.

## **COMBATIVES**

### **ELEMENTARY JUDO (1)**

*Two lab hours per week. Beginners only permitted.*

Judo for the beginning student. Consideration is given to the rules, procedures, techniques of falling, unbalancing, throwing techniques, combination techniques as related to physical development. Emphasis is on judo as a sport.

### **INTERMEDIATE/ADVANCED JUDO (1)**

*Two lab hours per week. Prerequisite: Demonstration of ability. Elementary Judo class or equivalent.*

A continuation of skills learned in elementary Judo. Advanced attacks and defenses are practiced. Consideration is given to judo as an "art," with emphasis on maximum use of the mind and body.

### **ELEMENTARY KARATE (1)**

*Two lab hours per week.*

Orientation in the philosophy, history and physical aspects of the Tae-Kwon-Do. Fundamental kicking, blocking, and striking techniques are studied. Upon completion students will be eligible for promotion to next highest grade (8th keop).

### **ELEMENTARY/INTERMEDIATE WRESTLING (1)**

*Two lab hours per week.*

Introduction to intercollegiate wrestling through instruction in the rules, scoring system, and skills. Fundamental stances, takedowns, escapes, reversals, breakdowns, rides and pinning combinations. After learning these skills, the student will be able to apply them in short periods of wrestling. More advanced skills as applied to intercollegiate wrestling. Dual competition within the class.

### **ADVANCED WRESTLING (2)**

*Four lab hours per week. Recommended for Varsity Wrestling.*

Combination of advanced wrestling instruction in: (1) Advanced Wrestling skills; (2) Competition; (3) Circuit Training; (4) Running.

### **FREESTYLE AND COLLEGIATE WRESTLING (1)**

Advanced training in wrestling skills with emphasis on competition in Freestyle and Collegiate Tournaments. Open to the general public including highschool wrestlers.

## **CONDITIONING**

### **ADULT CONDITIONING ACTIVITIES (1)**

*Three lab hours per week.*

A program of exercise designed to increase flexibility as well as promote cardiovascular and respiratory fitness. Participation in recreational activities including badminton and volleyball.

**ADULT FITNESS (1)**

*Two lab hours per week.*

This course is designed to re-acquaint the adult with exercise and to increase cardiovascular fitness. Exercise for flexibility, strength and agility; jogging for conditioning of the vascular and respiratory systems; and relaxation for release of tension.

**BIODYNAMICS (1)**

*Two lab hours per week.*

Stress is placed on improvement of posture and fitness. The course offers measurement in strength, flexibility, and coordination, and an evaluation of one's posture.

**CIRCUIT TRAINING (1) (Weight Conditioning)**

*Two lab hours per week.*

Vigorous weight training exercises set up in training "stations." Individuals rotate from station to station on a specific time schedule. Emphasis is on strength and overall body conditioning.

**CIRCUIT TRAINING (1½) (Weight Conditioning)**

*Three lab hours per week.*

Vigorous weight training exercises set up in training "stations." Individuals rotate from station to station on a specific time schedule. Emphasis is on strength and overall body conditioning. Weight machines are utilized.

**CONDITIONING FOR THE WOMAN ATHLETE (1½)**

*Three lab hours per week.*

A vigorous conditioning program designed to assist the woman athlete in overcoming individual muscular weakness as related to specific sports. Progressive work with weight machine and with interval training is utilized.

**EXHIBITION GYMNASTICS (2)**

*Eight lab hours per week. Prerequisite: Demonstration of competency.*

Group gymnastic routines designed for public presentation.

**FIGURE CONTROL (1)**

*Two lab hours per week.*

Introductory resistant weight training program designed to help students control, maintain and firm the conformation of their bodies. Provides for increase in strength, flexibility and agility.

**FITNESS ACTIVITIES (1)**

*Two lab hours per week.*

Exercises ranging from mild to very active, individual fitness evaluation and all-around endurance. Designed to help the individual understand the need for the benefits of physical fitness.

**GYMASTICS/TUMBLING/TRAMPOLINE (1)**

*Two lab hours per week.*

A combination of gymnastic activities including trampoline, tumbling and the traditional gymnastic apparatus. Students may receive instruction in all areas or may specialize in one area of interest.

**JOGGING (1-2)**

*Two to four lab hours per week.*

Exercise periods in preparation for running and a program of jogging. Objective is to bring about an increase in cardiovascular efficiency and neuro-muscular strength through running.

**MASSAGE, BEGINNING (1)**

*Two lab hours per week.*

How to give and receive a massage. Emphasis on relaxation and well-being. Content includes history, study of the skeletal and muscular structure, and circulatory system; basic massage strokes, basic preparation, practice, massage systems, tension and relaxation.

**MASSAGE, INTERMEDIATE (1)**

*Two lab hours per week. Prerequisite: Beginning Massage.*

Practice in adapting basic massage strokes to a personalized rather than mechanized style that will accommodate the needs of the receiver. The psychological effects of massage; the use of "deep" massage to perceive and relieve chronic and acute tension. Includes lectures and demonstrations on specialized body systems such as physical therapy, osteopathy, cosmetology, shiatsu, foot reflexology, Rolfing, and polarity.

**OVER 30s (½)**

*Two lab hours per week for eight weeks.*

*Learning experience in a variety of lifetime sports. Provision is made for personalized exercise programs.*

**SLIM/TRIM (1)**

*Two lab hours per week.*

Exercises for fitness and body conditioning and body contouring; instruction in the health aspect of a balanced diet and proper weight. Analysis of individual needs and development of a program to achieve the student's goal.

#### **TRAMPOLINE (1)**

*Two lab hours per week.*

Trampoline activity for elementary, intermediate and advanced students. Safety skills and fundamental processes of trampolining.

#### **ELEMENTARY WEIGHT CONDITIONING (1)**

*Two lab hours per week.*

A basic course of weight conditioning designed to build and strengthen the body, to increase flexibility, and to add agility; instruction in various exercises and associated safety procedures utilizing free weights and/or weight machine.

#### **ELEMENTARY WEIGHT CONDITIONING (1½)**

*Three lab hours per week.*

A basic course of weight conditioning designed to build and strengthen the body, to increase flexibility, and to add agility; instruction in the various exercises and associated safety procedures utilizing free weights and/or weight machines.

#### **INTERMEDIATE WEIGHT CONDITIONING (1)**

*Two lab hours per week. Prerequisite: Successful completion of elementary weight conditioning or equivalent.*

Progressive skill and weight development in various weight conditioning exercises; opportunities to specialize in different areas of the body; development of individual programs. Free weights and weight machines are used.

#### **INDIVIDUAL PROGRAMS IN WEIGHT CONDITIONING (2)**

*Four and one-half hours per week. Evening class meets once a week for two hours (One unit). Prerequisite: Demonstration of competency.*

Vigorous weight training in an individual program of exercises designed to build specific strength with regard to each student's goal. Weight lifting machine utilized.

#### **CIRCUIT WEIGHT CONDITIONING (1)**

*Two lab hours per week.*

Designed to develop additional strength and flexibility, through the use of circuit training machines, for those stu-

dents primarily interested in improving their proficiency in the area of aquatics. Many of the stations used are conducive to improved overall physical conditioning.

#### **WEIGHT CONDITIONING FOR BASEBALL (1)**

*Two lab hours per week.*

Designed to develop additional strength and flexibility, through the use of circuit training machines, for those students interested in improving their proficiency in baseball.

#### **WEIGHT CONDITIONING FOR CROSS COUNTRY (2)**

*Four lab hours per week. Prerequisite for student athletes who will be participating as members of the Varsity Cross Country team.*

A weight conditioning course designed for the development of the long distance or cross country runner.

#### **WEIGHT CONDITIONING FOR FOOTBALL (1½)**

*Three lab hours per week. Prerequisite: Varsity Football candidate.*

Course is designed to teach students to use overload weight training to build bulk and strength. Students will work on major muscle groups, with emphasis on legs and upper body development.

#### **WEIGHT CONDITIONING FOR TRACK (2)**

*Four lab hours per week. Prerequisite for student athletes who will be participating as members of the Varsity Track team.*

A weight conditioning course designed for the individual development of the 18 different events in Track and Field.

#### **WEIGHT CONDITIONING FOR WEIGHT WATCHERS (1)**

*Two lab hours per week.*

Dynamic exercise program for weight watchers. Use of exercise equipment for cosmetic improvement and developing the over-all condition of the body.

#### **YOGA I (1)**

*Two lab hours per week.*

Basic course in Hatha Yoga — basic postures, breathing, principles of diet, and understanding of the way Yoga unites the mind and body through passive exercise and energy release.

#### **YOGA II (1)**

*Two lab hours per week.*

Individualized programs designed for the student's level of physical competence in Hatha Yoga. Pranayama Yoga and Jnana Yoga are explored, as are diet, nutrition, massage and meditation.

## DANCE

*Descriptions of the following courses may be found on page 131 under DANCE. Students may enroll in either Dance or Physical Education but not both.*

Folk/Square Dance (1)  
Movement and Body Awareness (1)  
Elementary Ballet and Modern Dance (1)  
Dance and Movement for Theater (2)  
Ballet I (1)  
Ballet II (1)  
Contemporary Modern Dance (1)  
Jazz Dance (1)  
Dance Production I (1)  
Dance Production II (2)

## INDIVIDUAL SPORTS

### ELEMENTARY ARCHERY (1)

*Two lab hours per week.*

Fundamentals of target archery. Individual and team competition in the Scholastic, Junior Columbia, and P.A.A. Rounds safety rules, scoring, terminology, and care and selection of equipment.

### BACKPACKING (2)

*Ten lecture hours and two field trips. Prerequisite: Student must be at least 18 years old.*

Acquaints students with necessary skills for backpacking. Lectures cover equipment, food, safety standards, and map and compass reading. Transportation is not provided. Equipment and/or equipment rental is required.

### ELEMENTARY BADMINTON (1)

*Two lab hours per week.*

The rules and strategies of badminton, as well as the fundamentals of grip, strokes, footwork and court coverage through drills and competition; testing program in the various techniques taught; tournaments in singles and doubles are held within the class period.

### INTERMEDIATE BADMINTON (1)

*Two lab hours per week. Prerequisite: Elementary Badminton.*

Emphasis on strategy, tactics, footwork, doubles teamwork and the singles game. Tournaments in singles and doubles.

### ADVANCED BADMINTON (1)

*Two lab hours per week, Prerequisite: Completion of the elementary course in the top ability group.*

Advanced techniques of strategy and tournament play. Tournament of different types will be played in class. Students are encouraged to enter outside tournaments.

### BOWLING (1)

*Two lab hours per week.*

An opportunity to learn the techniques of bowling or to refresh current knowledge and improve to a more advanced level. Classes will be listed by skill levels in the schedule. (Elem., Intermed., Intermed./Advan., Advanced and League). Approx. \$2/day is required at off-campus facility. Students must provide own transportation.

### ELEMENTARY/INTERMEDIATE/ADVANCED FENCING (1)

*Two lab hours per week.*

Techniques and practice in form, attacks, parries, counter-attacks, bouting, timing, strategy, history, safety, etiquette, rules, terminology, judging, directing, scorekeeping, and tournament.

### ELEMENTARY GOLF (1)

*Two lab hours per week. (Not open to students who have had prior golfing experience.)*

Instruction in techniques, rules, etiquette and philosophy for the beginning golfer; stance, grip, swing as associated with iron and wood shots. Outside assignments include playing at least 9 holes of golf. (Approximately \$5-\$7 per semester is required at off-campus facility for green fees, golf balls, and necessary equipment rental.)

### HIKING (1)

*Hours by arrangement.*

Basic skills, rules of trail safety, and equipment for hiking. Hikes are scheduled to nearby areas as well as one all-day hike. Students must provide their own transportation.

### ELEMENTARY HANDBALL (1)

*Two lab hours per week.*

Basic handball skills involving serving and strokes. Features in doubles cutthroat and singles competition, including theory and strategy. Rules pertaining to one-wall handball will be stressed.

**RACQUETBALL (1)**

*Two lab hours per week.*

Offers rules, fundamentals, techniques, and philosophy of four-wall racquetball. Provides opportunity for increased cardiovascular fitness, hand-eye coordination and overall body quickness. Class offered off-campus. Students must furnish own transportation.

**ELEMENTARY TENNIS (1)**

*Two lab hours per week.*

Instruction in the fundamental skills of the service, forehand and backhand strokes; court strategy and the rules of play; testing program in all tennis skills and rules.

**INTERMEDIATE TENNIS (1)**

*Two lab hours per week. Prerequisite: Elementary tennis or demonstration of ability in forehand, backhand and service.*

Emphasis on net play and doubles and singles strategy. Includes volley, lob, and smash. Singles and doubles tournaments are included.

**ADVANCED TENNIS (1-1½)**

*Two or three lab hours per week. Prerequisites: Elementary and Intermediate Tennis, or equivalent.*

Advanced aspects of tennis plan. Instruction in advanced strategy, philosophy, and techniques; tournament play in singles and doubles; testing program in skills, techniques, and rules.

**TOURNAMENT TENNIS (1)**

*Two lab hours per week.*

Designed for the advanced tennis student who desires strong competition. Singles, doubles, mixed doubles, tournaments and ladder tournaments are offered.

**INTRAMURALS**

Supervised intramural sports are scheduled throughout the semester on Tuesday and Thursday at 11 a.m., for one half unit of college credit on a Credit/No Credit basis. Competition in selected seasonal activities for all students.

**Men** — Basketball, handball, paddleball, soccer, touch football.

**Women** — Basketball, touch football, handball.

**Co-ed** — Badminton, softball, table tennis, tennis, and volleyball. Sports Days: Festive occasions on which CSM students participate in a number of activities — pie-eating contest, frisbee throw, faculty-student softball, etc.

**TEAM SPORTS**

**ELEMENTARY BASEBALL (1)**

*Two lab hours per week.*

Activity in the basic skills of baseball. Rules of play and team strategies are stressed.

**ADVANCED BASEBALL (2)**

*Six lab hours per week. Prerequisite: High school baseball or equivalent.*

Designed as a training class for students seeking to participate in Varsity Baseball. Advanced skills and techniques in baseball. Written and practical testing.

**ELEMENTARY BASKETBALL (1)**

*Two lab hours per week.*

Basic skills, strategy, theory and practice in basketball. Skills include dribbling, shooting, guarding and passing. Also included are the theory, use, and practice of team play and strategy; Round Robin team play.

**ADVANCED BASKETBALL (1)**

*Two lab hours per week. Prerequisite: Playing experience in high school on either "B" or varsity level, or equivalent.*

Advanced skills of basketball play; some continuation of elementary skills; advanced techniques of offensive and defensive play; Round Robin team play.

**ADVANCED BASKETBALL FOR WOMEN (2)**

*Four lab hours per week. Required class for women wishing to compete on Women's Varsity (formerly Women's Intercollegiate) team.*

Advanced skills of basketball play; advanced techniques of offensive and defensive play; development of team play.

**ADVANCED SOFTBALL FOR WOMEN (2)**

*Four lab hours per week. Prerequisite to Women's Varsity Softball.*

Designed as a training class for women interested in participating on the women's Varsity Softball team. Advanced skills of softball play. Emphasis on team play, offense and defense.

**ADVANCED VOLLEYBALL FOR WOMEN (2)**

*Four lab hours per week. Prerequisite: Knowledge, skill, and desire to try out for Varsity Volleyball team.*

Designed to assist the potential varsity player in maintaining



and improving physical ability and condition; developing and improving basic and advanced individual skills; and learning and understanding the concepts of offense and defense.

#### **ADVANCED FOOTBALL AND CONDITIONING (2)**

*Four hours per week. Prerequisite: Varsity football experience in high school or college, or equivalent.*

Review of basic skills and introduction to advanced techniques and strategies in offensive and defensive football. Stresses conditioning necessary to play the game and for life-long health goals. Weight training included.

#### **SOCCER (1)**

*Two lab hours per week. Prerequisite: Demonstration of competency.*

Basic fundamentals of individual play such as dribbling, heading, shooting, trapping, passing and defensive tactics; participation in game situations; testing program in all soccer skills and knowledge of rules; league play.

#### **ADVANCED SOCCER (1)**

*Two lab hours per week. Prerequisite: Demonstration of competency.*

Advanced soccer techniques; written and practical testing program; league play.

#### **ADVANCED SOCCER (1½)**

*Three lab hours per week. Class meets three times per week. Prerequisite: Demonstration of competency.*

Advanced soccer techniques; written and practical testing program; league play.

#### **ELEMENTARY SOFTBALL (1)**

*Two lab hours per week.*

Activity in the basic skills, strategy and practice in softball. Skills include batting, catching and throwing. Also included are the rules of play and team strategy through Round Robin competition.

#### **ADVANCED TRACK AND FIELD (2)**

*Four and one half hours per week.*

Designed to increase conditioning through weight training, with emphasis placed on individual needs in specific track events. Running and instruction in all aspects of track and field are included.

#### **ELEMENTARY VOLLEYBALL (1)**

*Two lab hours per week.*

Fundamentals of serving, passing, setting and spiking; team competition under national and international rules of play. Strong emphasis on knowledge of rules.

#### **INTERMEDIATE VOLLEYBALL (1)**

*Two lab hours per week. Prerequisite: Elementary volleyball.*

Continuation of fundamental skills in tournament play. Team competition.

#### **ADVANCED VOLLEYBALL (1)**

*Two lab hours per week. Prerequisite: Demonstration of competency.*

Volleyball play for advanced volleyball students of superior ability; continuation of the fundamental skills; emphasis on team play and advanced strategy. Tournament play is offered.

#### **PEP SQUAD (1)**

*Two lab hours per week. Prerequisite: Demonstration of competency. Must be a member of CSM Pep Squad.*

Designed to teach the skills and techniques necessary for performing as a cheerleader or pompon girl. Routines are taught during scheduled meetings, and members perform at athletic contests.

### **INTERCOLLEGIATE SPORTS**

These courses are designed for those students who wish to compete in intercollegiate athletics and may be limited to those who demonstrate the necessary physical and mental fitness. Sufficient skill to reduce the likelihood of injury is also required. The passing of medical and physical examinations and the consent of the coach are necessary before enrollment.

Most varsity sports entail practice from 2-5 p.m. daily.

#### **4 VARSITY CROSS COUNTRY (1-2)**

*Fifteen hours per week by arrangement. Prerequisite: High school track or cross country experience, or equivalent.*

**Men** — Cross country and distance running competition on an intercollegiate level in the Golden Gate Conference; participation in Conference meets, invitational meets, Northern California meets and State Championship for those who qualify. Racing distance is 4 miles. Candidates should also enroll in Weight Conditioning for Cross Country (2 units).

**Women** — Same as for men, except racing distance is three miles.

**5 VARSITY BASKETBALL (1-2)**

*Fifteen hours per week by arrangement. Prerequisite: Demonstration of competency.*

Intercollegiate varsity basketball competition in the Golden Gate Conference; participation in regional tournaments.

**6 VARSITY WRESTLING (1-2)**

*Fifteen hours per week by arrangement. Prerequisite: Wrestling experience in high school or college, or demonstration of ability.*

Intercollegiate competition in dual matches in the Golden Gate Conference; competition in four tournaments each year including the California State Community College Tournament; instruction in advanced skills of wrestling.

**7 VARSITY TRACK AND FIELD (1-2)**

*Fifteen hours per week by arrangement. Prerequisite: High school track or cross country experience, or equivalent.*

**Men** — Track and field competition in the Golden Gate Conference on an intercollegiate basis; participation in Conference meets, invitational meets, Northern California Finals and the State meets for those who qualify. Candidates should also enroll in Weight Conditioning for Track (2 units).

**Women** — Same as for men except women use lighter shot, discus, and javelin. Participation in similar meets and events.

**8 VARSITY BASEBALL (1-2)**

*Fifteen hours per week by arrangement. Prerequisite: Demonstration of competency.*

Intercollegiate varsity baseball competition in the Golden Gate Conference tournament and with other community colleges in the area.

**9 VARSITY TENNIS (1-2)**

*Fifteen hours per week by arrangement. Prerequisite: Demonstration of competency.*

Intercollegiate varsity tennis competition in the Golden Gate Conference; participation in the Conference championships, and participation in the Northern California and State championships for those who qualify.

**10 VARSITY GOLF (1-2)**

*Fifteen hours per week by arrangement. Prerequisite: Demonstration of competency.*

Intercollegiate varsity golf competition in the Golden Gate Conference; participation in the Golden Gate Conference Tournament, Northern California Tournament, and State championships for those who qualify.

**11 VARSITY SWIMMING (1-2)**

*Fifteen hours per week by arrangement. Prerequisite: Demonstration of competency.*

Intercollegiate varsity swimming competition in the Golden Gate Conference, Northern California and State Community College swimming championships.

**12 VARSITY FOOTBALL (1-2)**

*Fifteen hours per week by arrangement. Prerequisite: Demonstration of competency.*

Intercollegiate varsity football competition in the Golden Gate Conference. Student athlete must be ready to start practice in late August before the fall semester begins. Student can also participate if enrolled in 12 or more units at either Skyline or Canada College.

**13 VARSITY WATER POLO (1-2)**

*Prerequisite: Demonstration of competency.*

Intercollegiate competition in the Golden Gate Conference, Northern California and State Championships. Students should contact coach regarding participation in spring and summer physical education classes.

**21 WOMEN'S VARSITY VOLLEYBALL (1-2)**

*Fifteen hours per week minimum. Prerequisite: Demonstration of competency.*

Intercollegiate competition in the Golden Gate Conference, Northern California, and State Championships.

**22 WOMEN'S VARSITY BASKETBALL (1-2)**

*Fifteen hours per week minimum. Prerequisite: Demonstration of competency.*

Intercollegiate competition in the Golden Gate Conference, Northern California, and State Championships.

**23 WOMEN'S VARSITY SOFTBALL (1-2)**

*Fifteen hours per week minimum. Prerequisite: Demonstration of competency.*

Intercollegiate competition in the Golden Gate Conference, Northern California, and State Championships.

**24 WOMEN'S VARSITY TENNIS (1-2)**

*Fifteen hours per week minimum. Prerequisite: Demonstration of competency.*

Intercollegiate competition in the Golden Gate Conference, Northern California, and State Championships.

### THEORY

#### 40 THE NATURE AND SCOPE OF PHYSICAL EDUCATION (2)

Two lecture hours per week.

Detailed treatment of academic and professional requirements for physical education, development of aims, objectives and philosophies. Students are required to prepare a term paper, participate in panel discussions, symposiums and subjective testing.

#### 41a-41b OFFICIATING FOR MEN'S SPORTS (2-2)

Two lecture hours per week plus lab hours by arrangement.

A course designed for Physical Education majors. Officiating procedures in a variety of activities. Laboratory experience. Assignments are given as related to the intramural and physical education instructional program.

#### 42a-42b OFFICIATING FOR WOMEN'S SPORTS (2-2) (Formerly Women's Sports Officiating)

Two lecture and two lab hours per week. Prerequisite: Basketball, volleyball, and softball training or equivalent.

Designed for women Physical Education or Recreation students with training and lab work in intermediate or advanced classes and at high school athletic events.

#### 43a-43b THEORY OF SPORTS OFFICIATING (2-2) (Satisfies 41a-41b or 42a-42b)

Two lecture hours per week plus lab hours by arrangement. Offered in the evenings only.

A course designed for men and women Physical Education/Recreation majors. Officiating procedures for a variety of activities.

#### 47 COOPERATIVE EDUCATION (1-4) (Credit/No Credit)

Work experience in a field related to a career goal, supplemented by individual counseling from an instructor-coordinator. (See Page 130.)

#### 48 SELECTED TOPICS IN PHYSICAL EDUCATION (1-3) (Credit/No Credit)

Hours by arrangement.

Selected topics in Physical Education not covered by regular catalog offerings. Course content and unit credit to be determined by the Physical Education Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

#### 49 SPECIAL PROJECTS (1-2)

Hours by arrangement. Prerequisite: 3.0 GPA in subject field.

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

## Physical Science

#### 10 INTRODUCTION TO THE PHYSICAL SCIENCES (3)

Three class hours per week. Open to all students except those who are currently enrolled in or have completed a college course in physics, astronomy or chemistry.

Survey of topics in physics, astronomy and chemistry. Interdisciplinary aspects of science are emphasized. (Intended for non-science majors.)

#### 47 COOPERATIVE EDUCATION (1-4) (Credit/No Credit)

Work experience in a field related to a career goal, supplemented by individual counseling from an instructor-coordinator. (See Page 130.)

#### 48 SELECTED TOPICS IN PHYSICAL SCIENCE (1-3) (Credit/No Credit)

Hours by arrangement.

Selected topics in Physical Science not covered by regular catalog offerings. Course content and unit credit to be determined by the Math/Science Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

#### 49 SPECIAL PROJECTS (1-2)

Hours by arrangement. Prerequisite: 3.0 GPA in subject field.

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

## Physics

### 2a-2b GENERAL PHYSICS (4-4)

Three lecture and three lab hours per week. Prerequisite: 2a – Elementary Algebra and Plane Geometry; 2b – Physics 2a.

**2a** — Mechanics, heat and sound. **2b** — Magnetism, electricity, light and modern Physics. (Designed for students majoring in some field of letters and science; required for those planning to enter Medicine, Dentistry, Pharmacy, Optometry, Agriculture or Forestry.)

### 4a-4b-4c GENERAL PHYSICS (4-4-4)

Three lecture, one recitation and two lab hours per week. Prerequisite: 4a – Math. 31 and concurrent enrollment in Math. 32; 4b – Physics 4a, Math. 31 and 32 and concurrent enrollment in Math. 33; 4c – same as 4b. Students whose majors required only Math. 23a-23b should consult the instructor.

**4a** — Mechanics, wave motion and special relativity. **4b** — Electricity and magnetism. **4c** — Heat, light and modern physics. (4a-4b-4c constitute a three-semester program designed to give the student majoring in Engineering, Physics or Chemistry a thorough foundation in the fundamentals of physics.)

### 10 DESCRIPTIVE INTRODUCTION TO PHYSICS (3)

Three lecture hours per week. Prerequisite: None; the equivalent of at least one semester of high school-level Algebra is recommended. Open to all students except those who have had or are taking Physics 2a or 4a.

A description with experimental demonstrations of the more important phenomena of physics.

### 48 SELECTED TOPICS IN PHYSICS (1-3)

Hours by arrangement.

Selected topics in Physics not covered by regular catalog offerings. Course content and unit credit to be determined by the Math/Science Division in relation to community-student need and/or available staff. May be offered as a seminar lecture, or lecture/laboratory class.

### 49 SPECIAL PROJECTS (1-2)

Hours by arrangement. Prerequisite: 3.0 GPA in subject field.

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

## Political Science

### 1 (100) INTRODUCTION TO POLITICAL SCIENCE (3)

Three class hours per week.

An introductory survey designed to introduce the student to the nature of politics and to Political Science as a field of study. The scope of the course includes examination of the nature of the state, forms of government and political institutions, political theory and ideology, public law and administration, and international relations. (Fall only.)

### 2 (110) CONTEMPORARY FOREIGN GOVERNMENTS (3)

Three class hours per week. Prerequisite: One of the following: Pol. Sci. 1, 5, 21, 22, or 25.

An introduction to representative foreign political systems. A comparative analysis of how varied governments reconcile stability and change, power and responsibility, freedom and efficiency. The course stresses interrelationships of social patterns, ideology, and political institutions.

### 3 (120) INTERNATIONAL RELATIONS (3)

Three class hours per week.

An introductory survey of the nature of relations among states, focusing on the analysis of the basic forces affecting the formulation of foreign policy and the dynamics of international politics. The scope of the course includes examination of the nation-state system, sources of national power, instruments of national policy, and the attempt to resolve international conflict by peaceful methods. (Spring only.)

### 5 (130) INTRODUCTION TO POLITICAL THEORY (3)

Three class hours per week. Prerequisite: Successful completion of at least 12 semester units of college work.

A study of classical and modern political thought designed to develop student understanding of various theoretical approaches to politics, basic political problems and proposed solutions to these problems.

### 7 (230) CIVIL LIBERTIES AND CIVIL RIGHTS (3)

Three class hours per week.

A survey and analysis of the issues and problems considered by the U.S. Supreme Court in the area of civil liberties and civil rights. The rights of racial, political and religious minorities, and of criminal defendants; the concepts of due process and equal protection of the law; the interaction of the Supreme Court with the President, Congress, political parties and interest groups. (Satisfies the American Institutions requirement.)

1978-79 catalog

**9 (250) CONTEMPORARY ETHNIC POLITICS IN THE U.S.**

*Three class hours per week.*

A survey of the political perspectives, goals, and strategies of Black, Asian, Hispanic and Native American minorities within the context of American and Third World politics. Includes analysis of traditional and alternative approaches to liberation and political ascendancy, with particular emphasis on the movements of the 1960's and 1970's. (Satisfies the American Institutions requirement.)

**12 (300) STATE AND URBAN GOVERNMENT (3)**

*Three class hours per week.*

The structure and dynamics of urban democracy with special reference to city and state government in California. Emphasis on the problems of urban and metropolitan communities in such areas as law enforcement, ghetto conditions, school integration, welfare problems, and other related problems. The course includes an examination of the process of decision-making within the context of local and community politics. (Satisfies the California State and Local Government requirement.)

**18 (420) THE GOVERNMENTS AND POLITICS OF AFRICA (3)**

*Three class hours per week.*

A critical analysis of the processes and practices in African political life and the forces that shape them. (Identical to Ethnic Studies 18.)

**21 (210) AMERICAN POLITICS (3)  
(Formerly American Institutions)**

*Three class hours per week.*

Thorough study of the Constitution, a survey of the organization and functions of the branches of the Federal government, and an examination of the dynamics of the American political process. (Satisfies the American Institutions requirement.)

**22 (260) THE PRESIDENCY — AN AMERICAN POLITICAL INSTITUTION (3)**

*Three class hours per week.*

A comparative critical analysis of the Executive branch of American government from Franklin Roosevelt's administration to the present. Variations in policy-making, political activity, administrative leadership and Executive-Legislative branch relationships are scrutinized. (Satisfies the American Institutions requirement.)

**23 (310) CALIFORNIA STATE AND LOCAL GOVERNMENT (2)**

*Two class hours per week.*

Designed to acquaint the student with the institutions and problems of state and local government in California. (Satisfies the California State and Local Government requirement.)

**25 (200) NATIONAL, STATE AND LOCAL GOVERNMENT (5)**

*Five class hours per week. Not open to students who have had Pol. Sci. 21 or 24, or a comparable course in American or state institutions. Established primarily for students whose majors are Political Science, Pre-Law, Criminology and allied behavioral and social sciences.*

Introduction to the principles and problems of American government at the national, state and local levels. Inter-governmental relationships examined from a functional point of view. Major areas of emphasis are American federalism, judicial review, the political process in nation and state, civil liberties, foreign policy and the role of the citizen at all levels of government. (Satisfies the American Institutions and the California State and Local Government requirements.)

**27 (205) AMERICAN SOCIETY (5)**

*Five class hours per week. Limited to foreign students or recent immigrants.*

An orientation course in American society and culture, encompassing social, political and economic institutions as well as history. Particular attention given to aspects of American life and historical development that are unique — ethnic history, patterns of voluntary association, political and non-political, educational trends, cultural characteristics. (Satisfies American Institutions and California State and Local Government requirements.)

**28 (240) WOMEN, POLITICS AND POWER (3)**

*Three class hours per week. Prerequisite: None. Political Science 21 or 23 strongly recommended.*

An examination of the changing roles of women in the political process. Emphasis is on methodology, rationale and effects of women's participation on several levels of political activity. (Satisfies the American Institutions requirement.)

**39 (450) INTERNATIONAL ORGANIZATION:  
UNITED NATIONS (3)**

*Hours by arrangement.*

An analytical study of the institutional structure of the United Nations as well as the operative political forces within the organization. Includes extensive research into actual issues before the United Nations. A simulation exercise is conducted through participation in the Model United Nations of the Far West. Delegates are selected during the fall semester. (May be repeated for credit.)

**40 (490) STUDENT GOVERNMENT (1)**

Attendance at scheduled meetings and individual work by arrangement.

Designed to further the educational value of experience in student government. Open to students holding elective or appointive positions in student government or on student-faculty committees. Specialized reading and research topics will be selected for individual study. (May be repeated for credit.)

**48 (580) SELECTED TOPICS IN POLITICAL SCIENCE (1-3)**

Hours by arrangement.

Selected topics in Political Science not covered by regular catalog offerings. Course content and unit credit to be determined by the Social Science Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

**49 (590) SPECIAL PROJECTS (1-2)**

Hours by arrangement. Prerequisite: 3.0 GPA in subject field.

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

## Psychology

**1a (100) GENERAL PSYCHOLOGY (3)**

Three class hours per week.

Introduction to psychology, including such topics as perception, motivation, emotion, learning and thinking, the observation of behavior and the methods of measuring individual differences. Emphasis is placed on experimental evidence.

**1b (105) EXPERIMENTAL PSYCHOLOGY (3)**

Three class hours per week. Prerequisite: Psych. 1a, with a minimum grade of C. Recommended: Psych. 7.

Philosophy and aims of scientific inquiry and how it can be applied to answer questions in psychology. Students carry out experiments to familiarize themselves with the methods discussed.

**4 (110) COURTSHIP, MARRIAGE AND THE FAMILY (3)**

Three class hours per week.

History and development of marriage; dating; courtship;

personality adjustment in marriage; parenthood; the problem of divorce, mate-selection; love; the family; anatomic, physiologic, psychologic and sociologic aspects of sex; children; religious factors; marriage as a social institution. (Identical to Sociology 4.)

**5 (200) CHILD DEVELOPMENT (3)**

Three class hours per week. Prerequisite: Psych. 1a.

Consideration of perceptual, cognitive, social and emotional development extending from birth through adolescence, with an emphasis on current research.

**6 (300) SOCIAL PSYCHOLOGY (3)**

Three class hours per week. Prerequisite: Psych. 1a or Sociology 1.

The study of human interaction, with emphasis on social patterning and processes of perception, identity, roles and attitudes. (Identical to Sociology 6)

**7 (150) BASIC STATISTICAL CONCEPTS (3)**

Three class hours per week. Prerequisites: Math. 20 or four semesters of high school level Algebra with a C average Psych. 1a, or Sociology 1, or Anthro. 2. Recommended: Psych. 1a.

Introduction to the basic descriptive techniques and statistical inferences used in the behavioral sciences. (Spring only.)

**10 (500) PSYCHOLOGY IN PRACTICE (3)**

Three class hours per week.

Application of psychological principles to problems of everyday living rather than the technical-scientific approach of Psych. 1a. Intended for those who wish a general picture of human psychology, but who are not psychology majors. (May not be taken for credit following Psych. 1a.)

**13 (490) INTRODUCTION TO PARAPSYCHOLOGY (3)**

Three class hours per week. Prerequisite: Any course in Psychology, Sociology, Anthropology or Physics.

Introduction to parapsychology, including report of spontaneous phenomena and laboratory research. Emphasis on understanding current developments, methods of investigation and the philosophical and scientific implications of parapsychology and physical research.

**14 (360) GROUP DYNAMICS (2)  
(Credit/No Credit)**

Three hours of group participation per week. (May be repeated for credit.)

Group interaction in an unstructured situation, with a climate



of maximum freedom for personal expression, exploration of feelings and interpersonal communication. Emphasis on experience rather than theoretical and academic explanation of group process.

**28 (330) PSYCHOLOGY OF WOMEN (3)**

*Three class hours per week.*

An examination of the ways in which culture influences feminine and masculine role behavior within the framework of standard psychological concepts. Consideration of the demands placed on men and women by a rapidly changing society.

**33 (400) PSYCHOLOGY OF ADJUSTMENT (3)**

*Three class hours per week. Prerequisite: Psych. 1a.*

Study of the ways people adjust to their environments. Emphasis on the ways personality develops and changes. Case illustrations and different theories of personality are presented.

**34 (410) ABNORMAL PSYCHOLOGY (3)**

*Three class hours per week. Prerequisite: Psychology 1a or 33.*

Elaboration on the study of abnormal behavior and personality introduced in previous courses. Topics include neuroses, psychoses and other psychological problems, along with their etiology, dynamics, principal symptoms and treatments. The relationship between theory of personality and psychotherapy is explored.

**39 (450) HUMAN SEXUALITY (3)**

*Three class hours per week.*

Human sexuality considered from a psychological, physiological and cultural perspective, with a review of sex research. Topics include: reproductive process; the dimensions of sexuality; sexual arousal and response; sexual inadequacies and deviations; drugs and sexuality.

**40 (365) GROUP FACILITATOR TRAINING (2)  
(Credit/No Credit)**

*Two class hours per week. Prerequisite: Psychology 14 or equivalent.*

Methods and theories of small group facilitation. Emphasis is on experience and application of techniques from humanistic psychology. (May be repeated for credit.)

**48 (580) SELECTED TOPICS IN PSYCHOLOGY (1-3)**

*Hours by arrangement.*

Selected topics in Psychology not covered by regular catalog offerings. Course content and unit credit to be determined by the Social Science Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

**49 (590) SPECIAL PROJECTS (1-2)**

*Hours by arrangement. Prerequisite: 3.0 GPA in subject field.*

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

## Reading

See English 66 and English 67.

## Real Estate

See Business.

## Recreation Education

**40 INTRODUCTION TO RECREATION (2)**

*Two lecture hours per week with assigned laboratory meetings. For major and minor students in Physical Education and Recreation Education.*

A study of recreation as a profession, including history, principles and current trends. Analysis of the basic philosophies, skills and knowledge. Students are required to prepare a term paper, participate in panel discussions, symposiums, laboratory and field experience.

**41 RECREATIONAL LEADERSHIP (3)**

*Two lecture and two lab hours per week.*

Principles of human dynamics as they apply to effective face-to-face and group leadership. Emphasis on the identification of various types of groups and the application of leadership techniques. These techniques are applied to an active laboratory situation providing the student with a realistic format for application.

**42 SOCIAL RECREATION (2)**

*Two lecture hours per week.*

Instruction in planning, programming, and conducting social recreation activities in clubs, churches, campus organizations, playgrounds, and recreation centers. Classroom practice of principles and techniques, along with supervised experience in arranging and conducting social activities for outside groups.

**43 PROGRAM PLANNING & ORGANIZATION (3)**

*Two lecture and three lab hours per week. Prerequisite: Recreation 40.*

A theory and activity course for Recreation majors. Study of essential elements and basic principles of organization, supervision, and promotion. Evaluation of various types of recreation programs, including the methods and materials used in planning and conducting recreation programs in public and private agencies. Emphasis on the role of the face-to-face leader in organizing recreational programs in a variety of settings.

**44 FOUNDATIONS OF OUTDOOR RECREATION (3)**

*Two lecture and three lab hours per week.*

The history, development, principles and trends of organized outdoor recreation. Nature and conservation; practical skills in firecraft, outdoor cooking, and backpacking. Leadership training in camp counseling. Laboratory work and field trips, including camping and hiking activities.

Further work in conversation following the model of Russian 100a. (This course will not fulfill language requirement at California State Colleges or at the University of California.)

**100c (RUSS 802) CONVERSATIONAL RUSSIAN, INTERMEDIATE (2)  
(Credit/No Credit)**

*Three class hours per week. Prerequisite: Russian 100b or equivalent.*

More advanced work in conversation following the model of Russian 100b. (This course will not fulfill language requirement at California State Colleges or at the University of California.)

**100d (RUSS 803) CONVERSATIONAL RUSSIAN, ADVANCED INTERMEDIATE (2)  
(Credit/No Credit)**

*Three class hours per week. Prerequisite: Russian 100c or equivalent.*

Further advanced work in conversation following the model of Russian 100c. (This course will not fulfill language requirement at California State Colleges or at the University of California.)

## Social Science

**10a-10e (120, 121, 122, 123, 124) CALIFORNIA — AN INTERDISCIPLINARY APPROACH (2-3)**

*Two or three class hours per week.*

A study of California within the context of historical evolution, social patterns, geographic influence, economic development and political issues and institutions. All of the following courses satisfy the California State and Local Government requirement.

**10a (120) Historical Geography of California**

Analysis of the interacting relationships between time and space in the evolution of the California landscape.

**10b (121) Politics and Society in California**

Contemporary social problems examined in the context of their relationship to political institutions and processes.

## Russian

**100a (RUSS 800) CONVERSATIONAL RUSSIAN, ELEMENTARY (2) (Credit/No Credit)**

*Three class hours per week.*

Intensive drill in the formulas and idioms of daily speech is supported with sufficient grammar to give flexibility in the spoken language. (This course will not fulfill language requirement at California State Colleges or at the University of California.)

**When student demand is light Russian 100b,c,d may be offered as 1.5 hours modules.**

**100b (RUSS 801) CONVERSATIONAL RUSSIAN, ADVANCED ELEMENTARY (2)  
(Credit/No Credit)**

*Three class hours per week. Prerequisite: Russian 100a or equivalent.*

**10c (122) Economic History of California**

Investigation of the role of land and resource use, patterns and shifts in population and labor supply, and capital inflow in shaping the agricultural, industrial and commercial profile of the state.

**10d (123) Political Economy of California**

Interaction between economic forces and political power brought to bear on the evolution and functioning of governmental services.

**10e (124) Environmental Problems in California**

Examination of the impact of a growing population coupled with an increasingly sophisticated technology on a fixed resource base. Relationships of geographic conditions to political factors and resulting environmental problems.

**20 (185) CURRENT ISSUES FOR INTERNATIONAL STUDENTS (1) (Credit/No Credit)**

Analysis and interpretation of current problems of immediate interest and concern to recent arrivals to the country. The course is designed to give students of the United States a chance to discuss problems with students from other countries. (May be repeated for credit.)

**33a-33b (271-272) AFRICAN-AMERICAN CULTURE (3-3)**

*Three class hours per week.*

The history and evolution of Black culture in the United States, tracing its cultural institutions from Africa to the United States. The Black family, arts, religion, language, political and other social and cultural institutions and expressions are examined historically. Special emphasis on California's African-American tradition. (Identical to Ethnic Studies 33a-33b.)

**47 COOPERATIVE EDUCATION (1-3) (Credit/No Credit)**

*Work experience in a field related to a career goal, supplemented by individual counseling from an instructor-coordinator. (See Page 130.)*

**48 (580) SELECTED TOPICS IN SOCIAL SCIENCE (1-3)**

*Three class hours per week.*

An experimental course interdisciplinary in nature designed to explore a series of current and urgent human concerns. The theme and content of each offering will be publicized in

time for registration for the semester in which the course is to be offered. See counselors for current offering. (May be repeated for credit.)

**49 (590) SPECIAL PROJECTS (1-2)**

*Hours by arrangement. Prerequisite: 3.0 GPA in subject field.*

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

## Sociology

**1 (100) INTRODUCTION TO SOCIOLOGY (3)**

*Three class hours per week.*

Analysis of processes of group behavior and interaction between the individual and society; personality development in different cultures as shaped by learned customs, attitudes and values. Study of family, politico-economic and religious behavior; social movements; "mass society" and communications; community structure; social class and status, ethnic minorities, and race relations.

**2 (105) SOCIAL PROBLEMS (3)**

*Three class hours per week.*

Theories of social problems involving sociological and psychological approaches. Theoretical and descriptive studies of specific problem areas of crime and delinquency, mental illness, drug use and suicide, and the social problem areas of mass society.

**3 (114) RACIAL & CULTURAL MINORITIES (3) (Formerly Social Psychology of Ethnic Minorities)**

*Three class hours per week.*

Sociology of inter-ethnic contact with emphasis on the experience of minorities in the United States. An examination of the dual themes of racism and equality in American society, and consideration of the patterns of prejudice and discrimination.

**4 (110) COURTSHIP, MARRIAGE AND THE FAMILY (3)**

*Three class hours per week.*

History and development of marriage; dating; courtship; personality adjustment in marriage; parenthood; the problem

of divorce; mate-selection; love; the family; anatomic, physiologic, psychological and sociologic aspects of sex; children; religious factors; marriage as a social institution. (Identical to Psych. 4.)

### 6 (300) SOCIAL PSYCHOLOGY (3)

Three class hours per week. Prerequisite: Sociology 1 or Psychology 1a.

The study of human interaction, with emphasis on social patterning and processes of perception, identity, roles and attitudes. (Identical to Psych. 6.)

### 12 (200) URBAN SOCIOLOGY (3)

Three class hours per week. Prerequisite: Three units of Sociology or other Social Science or Architecture courses.

Analysis of patterns and processes of the developing urban regions; community typology, ecology, patterns of growth, urbanism as a way of life, social class and racial trends, planning, conservation and experimental solutions. (Satisfies the California State and Local Government requirement.)

### 16 (315) SOCIAL DYNAMICS OF PEOPLE OF COLOR (3)

Three class hours per week.

Social structure and dynamics of Third World institutions with emphasis on development and effectiveness of these institutions among Third World communities in the United States. Concentrations include the family, education, religion, and business. (Identical to Ethnic Studies 16.)

### 40a-40b (320-321) PATTERNS OF PREJUDICE AND RACISM (3-3)

Three class hours per week.

**40a** — Problems of prejudice and racism. Personality development. Psychoanalytic theories of prejudice, and racist-oriented trends and patterns are explored in depth with a consideration of the mythical and factual concepts employed to substantiate prejudice. **40b** — Concentration on specific cultural traditions. The origins of racial prejudice are traced to man's first recognition of racial differences and his subsequent historical reaction. (Identical to Ethnic Studies 6a-6b.)

### 48 (580) SELECTED TOPICS IN SOCIOLOGY (1-3)

Hours by arrangement.

Selected topics in Sociology not covered by regular catalog offerings. Course content and unit credit to be determined by the Social Science Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

### 49 (590) SPECIAL PROJECTS (1-2)

Hours by arrangement. Prerequisite: 3.0 GPA in subject field.

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

## Spanish

**Language Laboratory and Listening Requirement** — Students enrolled in certain courses in foreign language are required to make use of the language laboratory as prescribed by each department. Imitation, response and independent practice are integral features of the study of a foreign language at the College.

### 1 (SPAN 100) ELEMENTARY SPANISH (5)

Five class hours and two lab hours per week.

Spanish structures and active vocabulary based on oral and written pattern drills. Conversation based on short readings containing only structures already practiced.

### 1a (SPAN 101) ELEMENTARY SPANISH (3)

May be offered either for eight weeks on a daily basis plus two lab hours, or in a semester-long program for three class hours and one lab hour per week.

Approximately half of the semester's work in Spanish 1 is covered in this course.

### 1b (SPAN 102) ELEMENTARY SPANISH (3)

May be offered either for eight weeks on a daily basis plus two lab hours, beginning at mid-term, or in a semester-long program for three class hours and one lab hour per week. Prerequisite: Spanish 1a or equivalent.

Approximately the second half of the semester's work in Spanish 1 is covered. (Spanish 1a and 1b are equivalent to Spanish 1.)

### 1n (SPAN 311) ELEMENTARY SPANISH FOR STUDENTS WITH SPANISH-SPEAKING BACKGROUND (3)

Three class hours and one lab hour per week. Prerequisite: Spanish-speaking background and some ability to converse in Spanish.

Conversation in the language; study of the phonetic principles of Spanish; learning how to read and spell; study of the fundamentals of Spanish grammar.

**2n (SPAN 312) ADVANCED ELEMENTARY SPANISH FOR STUDENTS WITH SPANISH-SPEAKING BACKGROUND (3)**

Three class hours and one lab hour per week. Prerequisite: Spanish-speaking background and Spanish 1n or equivalent.

Continuation of Spanish 1n. Continued practice in speaking, reading, and writing, and reading of simple Spanish-American short stories. Further study of the principles of Spanish grammar.

**2 (SPAN 103) ADVANCED ELEMENTARY SPANISH (5)**

Five class hours and two lab hours per week. Prerequisite: Completion of Spanish 1a-1b with a passing grade; or assignment by the Foreign Language Department on the basis of the Foreign Language Placement Test in Spanish.

Continuation of Spanish 1. Reading of Spanish short stories to serve as a basis for classroom conversation.

**2a (SPAN 104) ADVANCED ELEMENTARY SPANISH (3)**

May be offered either for eight weeks on a daily basis plus two lab hours, or in a semester-long program for three class hours and one lab hour per week. Prerequisite: Spanish 1 or 1b.

Approximately half of the semester's work in Spanish 2 is covered.

**2b (SPAN 105) ADVANCED ELEMENTARY SPANISH (3)**

May be offered either for eight weeks on a daily basis plus two lab hours, beginning at mid-term, or in a semester-long program for three class hours and one lab hour per week. Prerequisite: Spanish 2a or equivalent.

Approximately the second half of the semester's work in Spanish 2 is covered. (Spanish 2a and 2b are equivalent to Spanish 2.)

**3 (SPAN 106) INTERMEDIATE SPANISH (5)**

Five class hours and one lab hour per week. Prerequisite: Spanish 2 or 2b with a passing grade, or assignment by the Foreign Language Department on the basis of the Foreign Language Placement Test in Spanish.

Practice of conversation and composition; review of grammar; class and collateral reading of Spanish and Spanish-American literature.

**3n (SPAN 313) SPANISH FOR STUDENTS WITH SPANISH-SPEAKING BACKGROUND (3)**

Three class hours per week. Prerequisite: Demonstration of ability to converse in Spanish.

Reading of contemporary Latin-American plays; study of vocabulary, spelling and grammar; geared to the special needs of the students enrolled in the class.

**4 (SPAN 107) ADVANCED INTERMEDIATE SPANISH (3)**

Three class hours and one lab hour per week. Prerequisite: Spanish 3 with a passing grade, or assignment by the Foreign Language Department on the basis of the Foreign Language Placement Test in Spanish. Concurrent enrollment in Spanish 8 recommended.

Further practice of conversation and composition based on class reading of works of modern Spanish and Latin-American authors; review of grammar; collateral reading of Spanish and Spanish-American literature.

**8a-8b (SPAN 201-202) SPANISH CONVERSATION (2-2)**

Two class hours and one lab hour per week. Prerequisite: Successful completion of Spanish 3 or higher. May be taken concurrently with Spanish 3 with permission of the instructor.

Practice in conversation based on Spanish customs and culture.

**25a-25b (SPAN 115-116) READING IN SPANISH LITERATURE (3-3)**

Three class hours per week. Prerequisite: 25a – Spanish 4; 25b – Spanish 25a.

Oral and written composition, class reading of works of Spanish and Spanish-American literature, extensive collateral reading of varied types of Spanish and Spanish-American literature, and review of grammar.

**29 (SPAN 251) HISPANOAMERICA CONTEMPORANEA (3)**

Three class hours per week. Prerequisites: Spanish 4 or Spanish-speaking background.

A study of contemporary Latin-American culture, its problems and concerns, as revealed in contemporary literature; short story, drama, and novel. Conducted in Spanish.

**30 (SPAN 520) INDIVIDUAL READING (1-2)**

Conferences for oral reports. Time to be arranged. A minimum of three hours of reading per unit per week is required. Prerequisite: Spanish 25b.

Reading of Spanish and Latin-American representative 19th and 20th Century literature. (May be repeated for credit.)

**48 (SPAN 580) SELECTED TOPICS IN SPANISH (1-3)**

Hours by arrangement.

Selected topics in Spanish not covered by regular catalog offerings. Course content and unit credit to be determined by the Director of the Language Arts Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

**49 (SPAN 590) SPECIAL PROJECTS (1-2)**

*Hours by arrangement. Prerequisite: 3.0 GPA in subject field.*

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

**100a (SPAN 801) CONVERSATIONAL SPANISH, ELEMENTARY (2) (Credit/No Credit)**

*Three class hours per week.*

Intensive drill in the patterns and idioms of daily speech is supported with sufficient grammar to give flexibility in the spoken language. May be considered an excellent preparatory course for students who have not taken a foreign language before. (This course will not fulfill language requirement at California State Colleges or at the University of California.)

**When student demand is light, Spanish 100b, c, and d may be offered as 1.5 hour modules.**

**100b (SPAN 802) CONVERSATIONAL SPANISH, ADVANCED ELEMENTARY (2) (Credit/No Credit)**

*Three class hours per week. Prerequisite: Spanish 100a or equivalent.*

Further work in conversation following the model of Spanish 100a. (This course will not fulfill language requirement at California State Colleges or at the University of California.)

**100c (SPAN 803) CONVERSATIONAL SPANISH INTERMEDIATE (2) (Credit/No Credit)**

*Three class hours per week. Prerequisite: Spanish 100b or equivalent.*

More advanced work in conversation following the model of Spanish 100b. (This course will not fulfill language requirement at California State Colleges or at the University of California.)

**100d (SPAN 804) CONVERSATIONAL SPANISH, ADVANCED INTERMEDIATE (2) (Credit/No Credit)**

*Three class hours per week. Prerequisite: Spanish 100c or equivalent.*

Further advanced work in conversation following the model of Spanish 100c. (This course will not fulfill language requirement at California State Colleges or at the University of California.)

## Speech

The Speech program consists of courses in public speaking, interpersonal communication, oral interpretation of literature, debate and discussion. The English requirement may be partially satisfied by 3 units of Speech 1a or Speech 10.

**1a (SPCH 100) FUNDAMENTALS OF SPEECH AND PERSUASION (3)**

*Three class hours per week.*

Practice in delivering extemporaneous speeches; study of basic principles of effective communication; techniques of organizing and outlining; structure and content of basic speech types; development of critical listening; analysis and evaluation of speeches.

**2a-2b (SPCH 111-112) FUNDAMENTALS OF ORAL INTERPRETATION OF LITERATURE (3-3)**

*Three class hours per week. Prerequisite: 2a – none; 2b – Speech 2a.*

Oral reading of different forms of literature (poetry, short story, drama); analysis of meaning; analysis of voice quality; enunciation, pronunciation and expressiveness; performances for audiences and recording.

**10 (SPCH 120) INTERPERSONAL COMMUNICATION (3)**

*Three class hours per week.*

Interpersonal communication, rational dialogue and cooperative analysis of communicative events. Provides for study of communicative interactions, the symbolic process, reasoning and advocacy, and the effects of communication on man and society.

**33 (SPCH 130) VOICE AND ARTICULATION (3)**

*Three class hours per week.*

Exploration of various modes of communicating ideas, emotions and values through a meaningful use of the voice. Lessons in vocal variety, expressiveness, resonance, articulation and pronunciation.

**48 (SPCH 580) SELECTED TOPICS IN SPEECH (1-3)**

*Hours by arrangement.*

Selected topics in Speech not covered by regular catalog offerings. Course content and unit credit to be determined by the Language Arts Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.



**49 (SPCH 590) SPECIAL PROJECTS (1-2)**

*Hours by arrangement. Prerequisite: 3.0 GPA in subject field.*  
Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

**57a-57b (SPCH 251-252) SPEECH FOR NON-NATIVE SPEAKERS (3-3)**

*Three class hours per week.*

Practice in pronunciation and diction, usage; extemporaneous speaking.

## Technical Art/Graphics

*Extra supplies may be required in all Technical Art/Graphics courses.*

**48 (580) SELECTED TOPICS IN TECHNICAL ART/GRAPHICS (1-3)**

*Hours by arrangement.*

Selected topics in Technical Art/Graphics not covered by regular catalog offerings. Course content and unit credit to be determined by the Technology Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

**49 (590) SPECIAL PROJECTS (1-2)**

*Hours by arrangement. Prerequisite: 3.0 GPA in subject field.*  
Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

**52a-52b (200-201) TECHNICAL ILLUSTRATION (6-6)**

*Three lecture and nine laboratory hours per week. Prerequisites: 52a – concurrent enrollment in T.A.G. 54; 52b – 52a.*  
**52a** — Basic practices and procedures used in technical drawing with emphasis on ink line techniques and the systems of projection used in technical illustration. **52b** — Working from sketches, blueprints, photographs, and objects, students prepare technical illustrations and develop a professional portfolio.

**54 (210) GRAPHIC DESIGN (4)**

*Two lecture and six laboratory hours per week. Prerequisite: Concurrent enrollment in T.A.G. 52a.*

Development of the creative approach to graphic design in technical art. Application of various systems of drawing and design principles to practical graphic problems, which range from simple one-sheet layouts to complete color presentations.

**55 (220) VISUAL PRESENTATION (4)**

*Two lecture and six laboratory hours per week. Prerequisite: Concurrent enrollment in T.A.G. 52b.*

Application of the student's creative ability and drawing skills to the development of visual presentations. Emphasis on charts, graphs, and transparencies for the overhead projector, and 35mm slides. Each student will prepare, and present before his class, a sequence of visuals on a designated subject.

**63 (300) GRAPHIC REPRODUCTION (2)**

*One lecture and three laboratory hours per week. Prerequisite: T.A.G. 52a (200).*

Study of the basic practices and procedures used in industry to reproduce technical art and publications. Emphasis will be on the offset printing process. Instruction on stencil, mimeo, diazo, and convenience copiers will be included.

**64 (310) INDUSTRIAL DESIGN (4)**

*Two lecture and six laboratory hours per week. Prerequisites: T.A.G. 52a and 52b (200 and 201).*

Introduction to the design sequence. Execution of concept drawings and models involved in producing an industrial design. Laboratory experience in idea interpretation and finished presentation drawings.

**65a-65b (350-351) PHOTO LITHOGRAPHY (2-4)**

*65a – One lecture and three laboratory hours per week; 65b – Two lecture and six laboratory hours per week. Prerequisites: 65a – T.A.G. 63 (300); 65b – T.A.G. 65a (350).*

**65a** — Designing original, continuous tone camera-ready art work and reproducing the subject of the offset method on metal plates. **65b**—Planning multi-color camera-ready art work and reproducing the subject on high-production offset equipment with emphasis on finishing procedures.

**66 (400) ADVANCED PROJECT (1)**

*Three lab hours per week. Prerequisites: Completion of three semesters of T.A.G. curriculum.*

Students will initiate, develop, and complete substantial indi-

vidual projects in consultation and under the direction of the instructor. Emphasis on initiative, innovation, and perseverance in the completion of these projects.

#### 710-714 GRAPHIC COMMUNICATIONS (1½ each)

Two lecture and three lab hours per week for eight weeks. No prerequisite for any course.

Self-paced graphic communication classes are designed to allow students to study basic skill areas which are repeated at progressively higher levels of competency. The cores are intensifications of informational blocks and skill areas.

710 — Core A — Design; B — Paste-up; C — Composition and photo conversion.

711 — Core B — Paste-up; C — Composition and photo conversion; D — Plate making and stripping.

712 — Core C — Composition and photo conversion; D — Plate making and stripping.

713 — Core D — Plate making and stripping; E — Press operation; F — Bindery.

714 — Cores A, B, C, D, E, and F.

#### 715 GRAPHIC ARTS FOR BUSINESS (1-1½)

Three lecture hours per week.

A study of the concepts needed by business persons to communicate with graphic arts professionals. Topics covered show the graphic arts process, from concept to printed material; lettering, typography, photography, illustration, color separation, plate making, paper, printing, and bindery operations.

## Technology

#### 47 (570) COOPERATIVE EDUCATION (1-4) (Credit/No Credit)

Work experience in a field related to a career goal, supplemented by individual counseling from an instructor-coordinator. (See Page 130.)

#### 48 (580) SELECTED TOPICS IN TECHNOLOGY (1-3)

Hours by arrangement.

Selected topics in Technology not covered by regular catalog offerings. Course content and unit credit to be determined by the Technology Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

#### 49 (590) SPECIAL PROJECTS (1-2)

Hours by arrangement. Prerequisite: 3.0 GPA in subject field.

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

#### 71 (100) SCIENCE FOR TECHNICIANS (3)

Three lecture hours per week.

Study of applied physics phenomena as related to simple devices including forces, stress, moments acceleration, velocity, friction, energy and basic thermodynamics.

#### 72 (110) INDUSTRIAL MATERIALS (2)

Two lecture hours per week. Recommended: Concurrent enrollment in Tech. 74 (120).

Study of metals common to industry, basic mining techniques, structures, physical and chemical properties and uses; lattice structure, alloy systems, mechanical tests and characteristics of strength, elasticity, ductility, malleability, heat treatment and surface coatings.

#### 73 (700) TECHNICAL REPORTING (3)

Three lecture hours per week.

Study and preparation of communications: memoranda, letters, technical reports, specifications, monographs and technical oral presentations; research for technical reporting.

#### 74 (120) INDUSTRIAL PROCESS (3)

Three lecture hours per week.

Processing of common industrial materials, including the removing, shaping and joining of metals, as well as the processing of plastics, rubber, glass and some exotic materials currently in use in local industries.

#### 76 (200) MACHINE SHOP FOR TECHNOLOGY (2)

One lecture and three shop hours per week.

A survey course for the technology student who requires a generalized experience in Machine Tools. Subjects covered: bench work, measurement, threads, cutting tools, lathe, mill, grinding, saws and others. (Extra supplies may be required.)

#### 79 (210) PRINCIPLES OF MACHINE TOOL MANUFACTURING (2)

Two lecture hours per week.

Basic tool operations and set-ups for machine tools, welding,

and quality control as used in manufacturing processes. Applications and theory of operations are demonstrated and discussed. (Not open to machine tool or welding technology majors.)

## Telecommunications

### 47 COOPERATIVE EDUCATION (1-4) (Credit/No Credit)

Work experience in a field related to a career goal, supplemented by individual counseling from an instructor-coordinator. (See Page 130.)

### 48 SELECTED TOPICS IN TELECOMMUNICATIONS (1-3)

*Hours by arrangement.*

Selected topics in Telecommunications not covered by regular catalog offerings. Course content and unit credit to be determined by the Fine Arts Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

### 49 SPECIAL PROJECTS (1-2)

*Hours by arrangement. Prerequisite: 3.0 GPA in subject field.*

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

### 51 INTRODUCTION TO BROADCASTING (3)

*Three lecture hours per week.*

Introduction to the radio and television broadcasting industry: its nature, organization, history, operation, regulation, programming and business procedure.

### 52a-52b RADIO STUDIO TECHNIQUES (3-3)

*One lecture hour and six lab hours per week by arrangement. Prerequisites: 52a – Concurrent enrollment in Telecommunications 65, or valid third-class license with broadcast endorsement; 52b – Telecommunications 52a plus demonstration of acceptable operational ability.*

**52a** — Study of the basic practices and procedures in radio broadcasting: The proper use of microphones, operation of audio mixing consoles, tape recorders and other common

broadcast equipment, with emphasis on combo-and engineering-announcer types of programs. **52b** — Advanced students operate the radio broadcast station KCSM-FM as part of their laboratory assignment.

### 53 ADVANCED RADIO OPERATIONS (3)

*One lecture hour and six lab hours per week by arrangement. Prerequisite: Telecommunications 52b or equivalent.*

Instruction in the area of radio broadcast production/operations, including assuming responsibility for remote broadcasts, recording out-of-studio activities and events, compiling and producing weekly station promotional materials, and assisting students in Telecommunications 67 to produce weekly programs.

### 60a-60b TELEVISION STUDIO TECHNIQUES (3-3)

*One lecture hour and six lab hours per week. Prerequisite: 60a – None; 60b – Telecommunications 60a.*

**60a** — Study of the equipment used in a television studio with emphasis on lighting, camera operation, audio control, video mixing, and production work. **60b** — TV studio operations and production training.

### 61a-61b-61c PROJECTS IN TELEVISION (3-3-3)

*One lecture and six lab hours per week by arrangement. Prerequisite: Telecommunications 60a-60b, or 101a-101b.*

**61a** — Introduction to television production with supervised activity in the planning of program material and program production. Students assist in the operation of KCSM-TV as part of the laboratory assignment. **61b** — Study of television operations and production with emphasis on the total station function. KCSM-TV laboratory assignments continued. **61c** — Advanced activity in television operations and production. Programs suitable for televising are produced for KCSM-TV.

### 65 COMMERCIAL LICENSES (3)

*Three lecture and three lab hours per week. Recommended: Electronics Technology 14 (110).*

Communication procedures, regulations, and electronic theory in the area outlined by the Federal Communications Commission study guide, with attainment of the first-or second-class commercial telephone license as the final goal. (May be repeated for credit.)

### 66 BROADCAST ANNOUNCING (3)

*Three class hours and one additional hour per week by arrangement.*

Introduction to the basics of announcing skills, effective speaking and critical listening. Practice in analysis and evalu-

ation of speeches, reading typical radio copy, speaking ad lib. Announcing and microphone techniques, developed through regular use of the studio facilities.

### 67 RADIO PRODUCTION PROJECTS (3)

One lecture hour and six lab hours per week to be arranged. Prerequisite: Telecommunications 66 or equivalent.

Instruction in the area of broadcast production, with major emphasis on researching a given subject or area, producing a series of half-hour or quarter-hour programs on the subject or area, and broadcasting the series on the college's FM station, KCSM-FM. Particular emphasis is placed on writing and the final vocal delivery involved in the series.

### 68 BROADCAST TIME SALES (3)

Three lecture hours per week.

All functions of the radio and television stations pertaining to sales; ratings, formats, basics of selling, the advertising agency, and the sales presentation.

### 70 MOTION PICTURE PRODUCTION TECHNIQUES (3)

Two lecture and five lab hours per week.

Introduction to the basic photographic and cinematographic techniques used in television and motion picture production. Includes graphics for television, sound-on-film techniques. (Identical to Fine Arts 17a.)

### 71 RADIO AND TELEVISION NEWS EDITING AND WRITING (3)

Three lecture hours per week.

Wire copy, rewriting, oral writing style, putting the newscast together for air, good taste in reporting, libel and slander laws, use of the tape recorder and the "beeper" telephone, and writing for still pictures and film.

### 101a-101b RADIO AND TELEVISION TECHNICAL OPERATIONS AND MAINTENANCE (3-3)

Two lecture and five lab hours per week.

**101a** — Construction, installation and maintenance of equipment used in KCSM-FM and KCSM-TV, and related studio equipment, including lighting, audio and video console equipment. **101b** — Advanced instruction in the areas presented in Telecommunications 101a, in addition to intercommunications equipment, video tape recorders, and FM and TV transmitters.

## Trade and Industrial

### 48 (580) SELECTED TOPICS IN TRADE AND INDUSTRY (1-3)

Hours by arrangement.

Selected topics in Trade and Industry not covered by regular catalog offerings. Course content and unit credit to be determined by the Technology Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

### 62 (730) CONTRACTOR'S LICENSE AND LAW (3)

Prerequisite: Experience in the construction field.

An introduction to the legal requirements for a contractor's license and a study of his/her obligations to clients.

The following courses are designed for indentured apprentices.

### 71a-71b (700-702) FIRST LEVEL APPRENTICESHIP MACHINE SHOP THEORY (1-1)

### 71aL-71bL (701-703) FIRST LEVEL APPRENTICESHIP MACHINE SHOP LABORATORY (1-1)

### 72a-72b (704-706) SECOND LEVEL APPRENTICESHIP MACHINE SHOP THEORY (1-1)

### 72aL-72bL (705-707) SECOND LEVEL APPRENTICESHIP MACHINE SHOP LABORATORY (1-1)

### 73a-73b (708-710) THIRD LEVEL APPRENTICESHIP MACHINE SHOP THEORY (1-1)

### 73aL-73bL (709-711) THIRD LEVEL APPRENTICESHIP MACHINE SHOP LABORATORY (1-1)

### 74a-74b (712-714) FOURTH LEVEL APPRENTICESHIP MACHINE SHOP THEORY (1-1)

### 74aL-74bL (713-715) FOURTH LEVEL APPRENTICESHIP MACHINE SHOP LABORATORY (1-1)

### 721 (85)\* CARPENTRY APPRENTICESHIP I (1)

### 722 (85) CARPENTRY APPRENTICESHIP II (1)

### 723 (85) CARPENTRY APPRENTICESHIP III (1)

### 724 (85) CARPENTRY APPRENTICESHIP IV (1)

- 725 (85) CARPENTRY APPRENTICESHIP V (1)
- 726 (85) CARPENTRY APPRENTICESHIP VI (1)
- 727 (85) CARPENTRY APPRENTICESHIP VII (1)
- 728 (85) CARPENTRY APPRENTICESHIP VIII (1)
- 741 (87)\* ELECTRICAL APPRENTICESHIP I (2½)
- 742 (87) ELECTRICAL APPRENTICESHIP II (2½)
- 743 (87) ELECTRICAL APPRENTICESHIP III (2½)
- 744 (87) ELECTRICAL APPRENTICESHIP IV (2½)
- 761 (91)\* PLUMBING APPRENTICESHIP I (3½)
- 762 (91) PLUMBING APPRENTICESHIP II (3½)
- 763 (91) PLUMBING APPRENTICESHIP III (3½)
- 764 (91) PLUMBING APPRENTICESHIP IV (3½)
- 765 (91) PLUMBING APPRENTICESHIP V (3½)
- 766 (91) PLUMBING APPRENTICESHIP VI (3½)
- 767 (91) PLUMBING APPRENTICESHIP VII (3½)
- 768 (91) PLUMBING APPRENTICESHIP VIII (3½)
- 769 (91) PLUMBING APPRENTICESHIP IX (3½)
- 770 (91) PLUMBING APPRENTICESHIP X (3½)
- 771 (91) REFRIGERATION I (3½)
- 772 (91) REFRIGERATION II (3½)
- 781 (97)\* SHEET METAL APPRENTICESHIP I (2½)
- 782 (97) SHEET METAL APPRENTICESHIP II (2½)
- 783 (97) SHEET METAL APPRENTICESHIP III (2½)
- 784 (97) SHEET METAL APPRENTICESHIP IV (2½)
- 785 (97) SHEET METAL APPRENTICESHIP V (2½)
- 786 (97) SHEET METAL APPRENTICESHIP VI (2½)
- 787 (97) SHEET METAL APPRENTICESHIP VII (2½)
- 788 (97) SHEET METAL APPRENTICESHIP VIII (2½)

\*(Number in parenthesis is former designation.)

## Welding Technology

### 48 (580) SELECTED TOPICS IN WELDING TECHNOLOGY (1-3)

*Hours by arrangement.*

Selected topics in Welding Technology not covered by regular catalog offerings. Course content and unit credit to be determined by the Technology Division in relation to community-student need and/or available staff. May be offered as a seminar, lecture, or lecture/laboratory class.

### 49 (590) SPECIAL PROJECTS (1-2)

*Hours by arrangement. Prerequisite: 3.0 GPA in subject field.*

Independent study in a specific field or topic, directed by an instructor and supervised by the Division Director. Students are eligible to request approval of a Special Project only after successfully completing at least two college-level courses in the subject field. (Note: Students normally may receive credit for only one Special Project per semester.)

### 51 (100) APPLIED WELDING MATHEMATICS (3)

*Three lecture hours per week.*

Areas, volumes, logarithmic calculations, fundamentals of algebra, calculation of irregular areas and volumes, metric conversions.

### 52a (110) ELEMENTARY WELDING THEORY (4)

*Four lecture hours per week. Prerequisite: Concurrent enrollment in W.T. 52aL.*

Introduction to gas welding of ferrous and non-ferrous metals, brazing and soldering. Instruction on the theory of flamecutting, non-destructive testing, introduction to metallurgy, and blueprint reading for welding.

### 52aL (111) ELEMENTARY WELDING PRACTICE (4)

*Four three-hour periods per week. Prerequisite: Concurrent enrollment in W.T. 52a.*

Practical experience in gas and conventional arc welding of ferrous and non-ferrous metals, brazing and soldering. Lectures and demonstrations on non-destructive testing. (Extra supplies may be required.)

### 52b (150) ELEMENTARY WELDING THEORY (4)

*Four lecture hours per week. Prerequisite: W.T. 52a.*

Introduction to conventional arc welding of steel, stainless steel and TIG welding of aluminum. Study of metallurgy and blueprint reading for welders.

**52bL (151) ELEMENTARY WELDING PRACTICE (4)**

Four three-hour periods per week. Prerequisite: W.T. 52aL.

Advanced experience in conventional arc welding of steel in the flat, vertical, and overhead positions. Introduction to manual TIG welding of aluminum. Extra supplies may be required.

**53 (180) METAL FABRICATION FOR WELDERS (2)**

One lecture and three lab hours per week. Prerequisite: Concurrent enrollment in W.T. 52b. Students must be a Welding Technology major.

Instruction in the application of manipulative skills required in metal fabrication processes: hand and power shearing, punching, forming, mechanical fastening, and sheet metal layout.

**62a (200) ADVANCED WELDING THEORY (3)**

Three lecture hours per week. Prerequisite: W.T. 52 a-b.

TIG, MIG welding with emphasis on carbon steel, alloy steel, and stainless steel. Advanced problems in all phases of welding. Study in the theory of metallurgy and heat treating as it applies to welding technology.

**62aL (201) ADVANCED WELDING PRACTICE (5)**

Fifteen lab hours per week. Prerequisite: W.T. 52aL and 52bL; concurrent enrollment in W.T. 62a.

Practical experience in TIG, MIG, and low hydrogen arc welding with emphasis on steel, stainless steel, and aluminum. Extra supplies may be required.

**62b (250) ADVANCED WELDING THEORY (3)**

Three lecture hours per week. Prerequisite: W.T. 62a.

Theory of MIG welding, pulsed MIG and TIG welding, electron beam welding, electro-slag welding, pipe study of the A.W.S. Structural Code and A.S.M.E. Boiler Code. Study of welding symbols as they apply to blueprints.

**62bL (251) ADVANCED WELDING PRACTICE (5)**

Fifteen lab hours per week. Prerequisite: W.T. 62aL.

Practical experience in the welding of exotic metals, flame spraying, pulsed TIG and pipe welding. Practical experience in job estimating and production welding techniques as well as maintenance welding techniques. Extra supplies may be required.

**75 (300) WELDING FOR TECHNOLOGY (2)**

One lecture and three shop hours per week.

Theories of oxyacetylene, bronze, arc and TIG welding, silver brazing, with emphasis on associated equipment and supplies. Designed for the student who is not a welding major. Extra supplies may be required.

**103 (700) TIG WELDING TECHNOLOGY (4)**

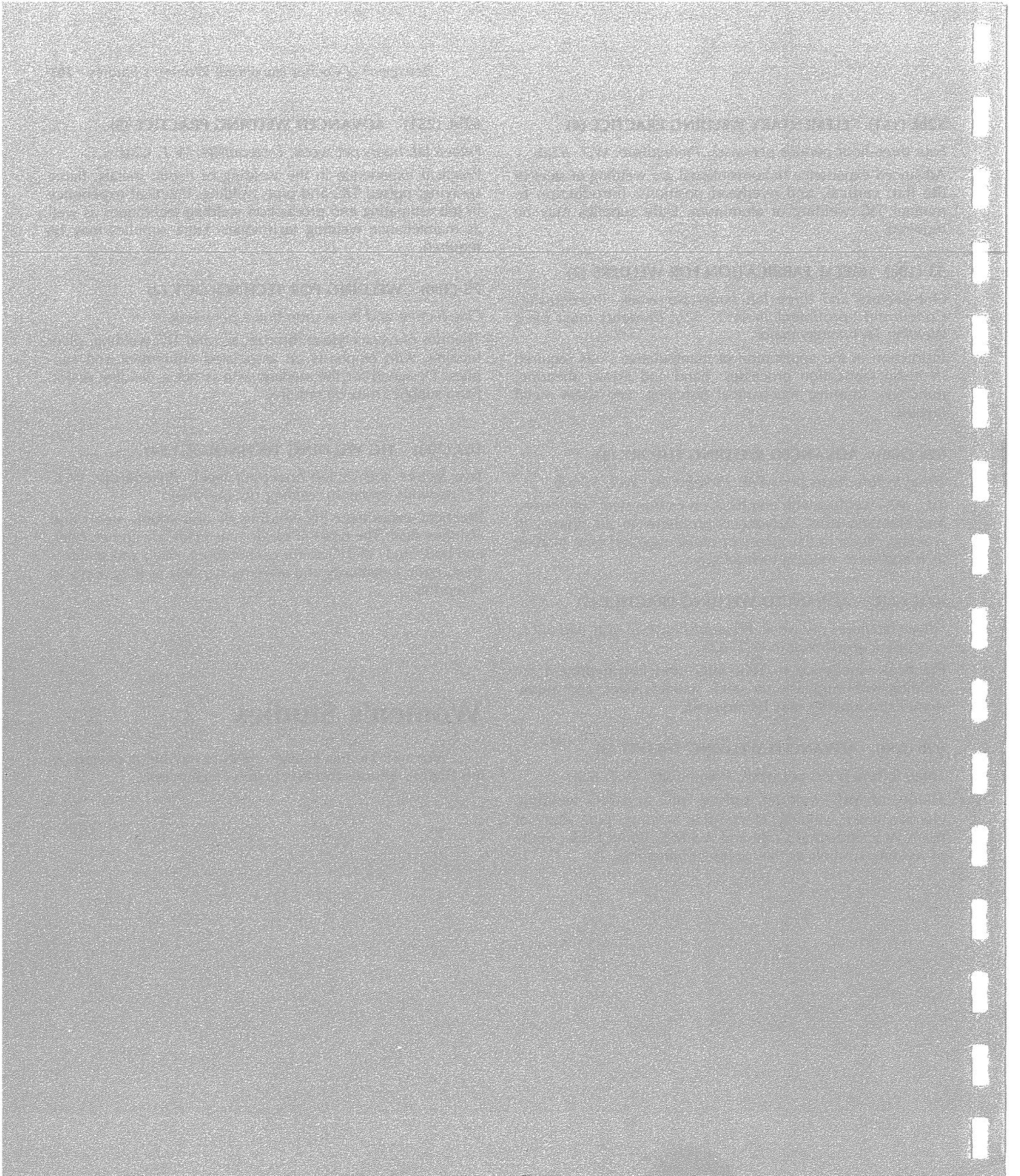
Two lecture and six lab hours per week. Prerequisite: W.T. 75, previous course in welding or equivalent.

Practical experience in welding of aluminum, steel, and stainless steel. The types of weldments made are corner, fillet, and butt. Study of TIG welding aluminum, steel, and stainless steel, basic metallurgy and welding symbols as they apply to blueprints.

## Women's Studies

Women's Studies courses are currently being offered by the English, History and Psychology departments.











## Focus on Faculty . . .

### JEAN PUMPHREY

Seven years ago a group of English instructors got together and decided to put on a Poetry Day, a special time for students and faculty to read their original poems, listen to the work of others, and share their ideas and interests as poets. It was felt that an informal "open mike" event would bring together the many poets on campus (including those who'd never been involved in poetry classes) and would allow them to explore together the creative process central to the writing of poetry. Now, thanks largely to the efforts of English instructor and poet Jean Pumphrey, that one-day event has "grown like Topsy." Each semester College of San Mateo hosts at least two such Poetry Days (sometimes as many as four), which attract hundreds of students, faculty and area residents to the campus.

"They come from everywhere—we have overflow crowds every time," says Pumphrey, who was instrumental in making the original idea a reality. Pumphrey and Helen Berryhill, working only with a few leftover dollars contributed by the Language Arts Division and Associated Students, organized the initial activities and cajoled noted Bay Area poets into attending, which started a grassroots interest in the event that continues to grow. In addition to the open mike sessions, the Poetry Forum now sponsors workshops and publishes an annual magazine, "Poetry Fair," which features the poems read at the Fall semester's Poetry Day. The Spring semester events regularly feature such nationally known poets as Joseph Langland and Karl Shapiro.

"It's been just fantastic," says Pumphrey. "We're able to meet the needs that weren't being addressed in the traditional classroom setting, besides just having fun." The San Mateo County Community College District Board of Trustees agreed that the activities are educationally sound and contributed special grant funds to ensure their success, and Pumphrey has applied for a grant under the National Endowment for the Arts for further expansion of the Poetry Forum.

"The support we've had has been tremendous from the very beginning," Pumphrey says, "not only from the student and faculty poets, but also from administrators and other divisions on campus. I really think that we could draw all the audience we'd need from within the District, the response has been so great." Why? "The Poetry Days allow people with similar interests to get together and find out what others are doing. And since there's no screening of poems to be read over the open microphone, it makes for a very spontaneous and stimulating atmosphere."

Language Arts Division Director Wilson Pinney says another reason for the Poetry Forum's success is Jean Pumphrey herself. "She's an extremely creative, high-energy sort of person and has worked very hard on this project from the start—she has to be given the lion's share of the credit." Pumphrey, however, just considers herself fortunate. "When I go to conferences and tell other educators about what we're doing, they can't believe that we have a program like the Poetry Forum on a community college campus—this sort of thing usually happens only at four-year schools. It says a lot for the college."

## Index

## A

A.A./A.S. Degree ..... 61,71,75  
 A Cappella Choir ..... 177  
 Absence Without Leave ..... 49  
 Academic Policy ..... 45  
 Accounting ..... 119, 125  
 Accreditation ..... 24  
 Activities ..... 56  
 Administration ..... 6  
 Administration of Justice ..... 75,101  
 Admission Requirements ..... 37  
 Adult Students ..... 38  
 Advertising ..... 117  
 Advisors ..... 51  
 Aeronautics ..... 75, 103  
 Agriculture ..... 76  
 Anatomy ..... 115  
 Anthropology ..... 106  
 Application for Admission ..... 37  
 Apprenticeship ..... 203  
 Aptitude Tests ..... 53, 143, 157  
 Archaeology ..... 106  
 Architecture ..... 77, 107  
 Army ROTC ..... 91, 175  
 Art ..... 77, 109  
 Associate in Arts,  
 Associate in Science Degree ..... 61  
 Associated Students ..... 55  
 Astronomy ..... 112  
 Athletics ..... 57, 186  
 Attendance Regulations ..... 45  
 Audio-Visual Aids ..... 113  
 Auditing ..... 39  
 Automotive Technology ..... 113

## B

Bacteriology ..... 115  
 Banking ..... 78, 117  
 Biology ..... 90, 114  
 Board of Trustees ..... 5  
 Broadcasting ..... 95, 202  
 Building Inspection ..... 78, 116  
 Business ..... 78, 116  
 Business Administration ..... 78, 125

## C

Calendar ..... 4  
 California State Colleges ..... 66  
 Career Development Center ..... 29, 54  
 Career Planning ..... 70  
 Career Programs ..... 70, 75  
 Certification Programs ..... 70, 75

Change of Program ..... 39  
 Chemistry ..... 82, 125  
 Choice of College ..... 38  
 Clothing ..... 128  
 Clubs for Students ..... 56  
 College Readiness Program ..... 54  
 Community Education ..... 82  
 Conduct ..... 49  
 Conservation ..... 114  
 Consumer Arts & Sciences ..... 82, 127  
 Continuing Education ..... 23, 33  
 Cooperative Education ..... 82, 130  
 Cosmetology ..... 82, 130  
 Costs to Students ..... 25  
 Counseling/Advising ..... 34, 38, 52  
 Counselors/Advisors ..... 51  
 Course Additions ..... 99  
 Courses, General College ..... 101  
 Course Repetition ..... 46  
 Credits ..... 43, 46  
 Credit by examination ..... 46  
 Curricula, Suggested ..... 65

## D

Dance ..... 131, 179  
 Data Processing ..... 79, 132  
 Decorative Arts (See Art) ..... 109  
 Degree (A.A., A.S.) ..... 61  
 Dental Assisting ..... 82, 133  
 Description of Courses ..... 99  
 Disqualification ..... 45  
 Dismissal ..... 45  
 Drafting Technology ..... 84, 134  
 Drama ..... 84, 136

## E

Early Childhood Education ..... 84, 137  
 Ecology ..... 113  
 Economics ..... 138  
 Education ..... 84, 139  
 Electronics Technology ..... 87, 139  
 Enrollment, Open ..... 46  
 Emergency Leave of Absence ..... 49  
 Employment Opportunities ..... 54  
 Engineering ..... 87, 142  
 English ..... 87, 143  
 English Placement Test ..... 143  
 Entrance Exams ..... 4, 37  
 Entrance Requirements ..... 37  
 Escrow Courses ..... 79, 124  
 Ethnic Studies ..... 87, 147  
 Evening Program ..... 33  
 Examinations ..... 43, 46

## F

Faculty ..... 7  
 Faculty Emeriti ..... 17  
 Fashion Merchandising ..... 81, 117  
 Fees ..... 39, 40  
 Filmmaking ..... 88, 144  
 Final Examinations ..... 43  
 Financial Aid ..... 54  
 Fine Arts ..... 87, 149  
 Fines ..... 49  
 Fire Science ..... 88, 149  
 Floristry ..... 89, 163  
 Foods ..... 128  
 Foreign Language ..... 151  
 Foreign Students ..... 38  
 Forestry ..... 114  
 Former Students ..... 38  
 French ..... 88, 151

## G

General College Information ..... 21  
 General Education ..... 23, 61, 66  
 Geography ..... 153  
 Geology ..... 88, 154  
 German ..... 88, 154  
 Glass Blowing Courses ..... 110  
 Grade Alleviation Policy ..... 45  
 Grade Point Deficiency ..... 45  
 Grades ..... 43  
 Grade Reports ..... 33, 43  
 Grades and Scholarships ..... 43  
 Graduation Requirements ..... 61  
 Graphics ..... 94, 200  
 Grievance Procedure ..... 49  
 Guidance Courses ..... 156  
 Guide to Careers ..... 65

## H

Health Science ..... 157  
 Health Insurance ..... 53  
 Health Service ..... 53  
 High School Diplomas ..... 26  
 Historical Sketch (C.S.M.) ..... 21  
 History ..... 158  
 Holidays (See Calendar) ..... 4  
 Home Economics ..... 128  
 Honors at Graduation ..... 43  
 Honorable Dismissal ..... 45  
 Horticulture ..... 89, 161  
 Housing ..... 57  
 Humanities ..... 89, 163

- I**
- Incompletes ..... 43
  - Industrial Management
    - Certificates ..... 80
  - Information, General ..... 21
  - Instructors ..... 7
  - Insurance Courses ..... 120
  - Industrial Design ..... 95
  - Interior Design ..... 77, 111, 129
  - Italian Courses ..... 164
- J**
- Japanese ..... 164
  - Job Placement ..... 54
  - Journalism ..... 89, 165
  - Junior Standing ..... 65
- L**
- Labor Studies ..... 165
  - Law ..... 118, 125
  - Leave of Absence ..... 49
  - Learning Center ..... 54, 166
  - Learning Resources Center ..... 26
  - Legal Secretarial Curriculum ..... 80, 123
  - Liberal Studies ..... 89
  - Librarianship ..... 89, 167
  - Library ..... 26
  - Library Technology ..... 89, 167
  - Life Sciences ..... 90, 114
  - Loans ..... 54
- M**
- Machine Tool Technology ..... 90, 167
  - Major Fields of Study ..... 65, 75
  - Marks Used ..... 43
  - Management ..... 80, 169
  - Mathematics ..... 91, 118, 171
  - Mathematics Qualifying Test ..... 37
  - Medical Assisting ..... 80, 174
  - Medical Sciences ..... 90
  - Medical Secretarial Courses ..... 115, 174
  - Medical Terminology ..... 174
  - Medicine ..... 90
  - Merchandising ..... 81
  - Meteorology ..... 175
  - Military Science
    - (Army ROTC) ..... 91, 175
  - Music ..... 91, 175
- N**
- New Courses ..... 99
  - Newspaper, College ..... 57
  - Nondiscrimination Policy ..... 46
  - Nursery School ..... 137
  - Nursing ..... 90
  - Nursing A.S. ..... 90, 178
  - Nursing, Vocational ..... 92, 180
  - Nutrition ..... 128
- O**
- Oceanography ..... 180
  - Organizations; Student ..... 56
  - Ornamental Horticulture ..... 89, 161
- P**
- Paleontology ..... 180
  - Parking ..... 25
  - Part-Time Students ..... 38
  - Personnel Services ..... 54
  - Philosophy and Purposes
    - (College) ..... 23
  - Philosophy ..... 180
  - Photography ..... 78, 110
  - Physical Education ..... 57, 92, 182
  - Physical Education
    - Requirement ..... 62
  - Physical Science ..... 93, 190
  - Physics ..... 93, 191
  - Placement Services ..... 54
  - Placement Tests ..... 4, 37, 53, 143, 156
  - Police Science ..... 75, 101
  - Political Science ..... 191
  - Preparation to Enter Four-Year
    - Colleges ..... 65
  - Probation ..... 45
  - Program Changes ..... 39
  - Program Planning ..... 52, 65
  - Psychological Services ..... 53
  - Psychology ..... 193
  - Publications ..... 57
- R**
- Radio ..... 95, 202
  - Reading ..... 147
  - Real Estate ..... 80, 121
  - Recreation Education ..... 57, 93, 194
  - Refunds ..... 40
  - Registration ..... 39
  - Release ..... 38
  - Residence Requirements ..... 38
  - Revision of Regulations ..... 25
  - Right of Petition for
    - Readmission ..... 45
  - Russian Courses ..... 195
- S**
- San Mateo (Publication) ..... 57
  - Scholarship Honors ..... 43
  - Scholarships ..... 43
  - Sculpture Courses ..... 110
  - Secretarial Curricula ..... 81, 115
  - Secret Organizations ..... 49
  - Social Science ..... 93, 195
  - Sociology ..... 196
  - Spanish ..... 94, 197
- Speech** ..... 94, 199
- Speech Therapy** ..... 55
- Sports** ..... 57, 186
- Stanford University** ..... 68
- State Colleges** ..... 67
- Student Associations** ..... 56
- Student Government Courses** ..... 193
- Student Organizations** ..... 56
- Student Guide** ..... 57
- Student Health Insurance** ..... 53
- Student Services** ..... 51
- Student Responsibilities** ..... 49
- Suggested Curricula** ..... 65
- Summer Session** ..... 33
- T**
- Teacher Assistant Curricula ..... 85, 139
  - Technical Art/Graphics ..... 94, 200
  - Technical Illustration ..... 94, 200
  - Technology ..... 94, 201
  - Telecommunications ..... 95, 202
  - Television ..... 95, 202
  - Testing ..... 34, 37, 53, 143
  - Trade and Industrial
    - Courses ..... 203
  - Transcripts ..... 43
  - Transfer of Credits ..... 37, 46, 65
  - Transfer Programs ..... 65
  - Transportation Curricula ..... 82, 119
  - Trustees ..... 5
  - Tuition (Non-Residents) ..... 25
  - Tutoring ..... 54, 55, 166
- U**
- Unit Load Limitations ..... 38
  - Units of Work and Credit ..... 43
  - University of California ..... 68
  - Universities ..... 68
- V**
- Varsity Sports ..... 188
  - Veterans and Dependents ..... 25, 38, 55
  - Vocational Gardening ..... 89, 163
  - Vocational Nursing ..... 92, 180
- W**
- Welding Technology ..... 96, 204
  - Withdrawal from College ..... 34, 49
  - Women's Athletics ..... 57, 184
  - Women's Studies ..... 96, 205
  - Women's Re-entry Program ..... 55
  - Work, Part-Time ..... 54
  - Word Processing ..... 81, 122
- Z**
- Zoology ..... 114





11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
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